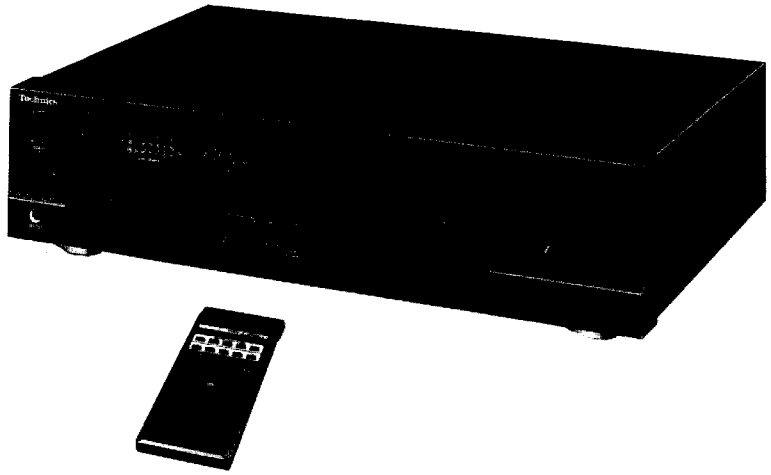
ORDER NO. AD8907222C3

Service Manual

Receiver

QUARTZ Synthesizer
AM/FM Stereo Receiver

SA-R177



Color

(K)... Black Type

Area

Country Code	Area	Color
(G)	Third Region.	(K)
(GN)	Oceania.	(K)

SPECIFICATIONS (DIN 45 500)

■ AMPLIFIER SECTION

Power output
DIN 1kHz 2 × 50 W (8 Ω)
40 Hz~20 kHz continuous power output
both channels driven 2 × 40 W (8 Ω)
Total harmonic distortion
rated power at 40 Hz~20 kHz 0.3 % (8 Ω)
half power at 1 kHz 0.07 % (8 Ω)
Intermodulation distortion
rated power at 60 Hz: 7 kHz = 4:1, SMPTE, 8 Ω 0.5 %
Power bandwidth
both channels driven, −3 dB 10 Hz~40 kHz (8 Ω)
Damping factor 20 (8Ω)
Input sensitivity and impedance
PHONO 3 mV/47 kΩ
CD, VCR 1, TAPE/VCR 2 200 mV/22 kΩ
PHONO maximum input voltage (1 kHz, RMS) 150 mV
S/N
rated power (8Ω)
PHONO 70 dB (IHF, A: 80 dB)
CD, VCR 1, TAPE/VCR 2 80 dB (IHF, A: 90 dB)
Frequency response
PHONO RIAA standard curve ±0.8 dB (30 Hz~15 kHz)
CD, VCR 1, TAPE/VCR 2 10 Hz~70 kHz (±3 dB)
5 band graphic equalizer 80 Hz, −10 dB~+10 dB
250 Hz, −10 dB~+10 dB
1 kHz, −10 dB~+10 dB
4 kHz, −10 dB~+10 dB
12.5 kHz, −10 dB~+10 dB
Loudness control (volume at −30 dB) 50 Hz, +9 dB
Output voltage
VCR 1, TAPE/VCR 2 REC OUT 200 mV
Channel balance, 250 Hz~6,300 Hz ±1 dB
Channel separation 55 dB
Headphones output level and impedance 430 mV/330 Ω
Load impedance
A or B 8 Ω~16 Ω
A and B 8 Ω~16 Ω

■ FM TUNER SECTION

Frequency range 87.50~108.00 MHz
Sensitivity
S/N 30 dB 1.5 µV (75 Ω)
S/N 26 dB 1.3 µV (75 Ω)
S/N 20 dB 1.2 µV (75 Ω)
IHF usable sensitivity 1.5 µV (IHF'58, 75 Ω)
IHF 46 dB stereo quieting sensitivity 22 µV/75 Ω
Total harmonic distortion
MONO 0.2 %
STEREO 0.3 %
S/N
MONO 60 dB (75 dB, IHF)
STEREO 58 dB (71 dB, IHF)
Frequency response 20 Hz~15 kHz, +1 dB ~ −2 dB
Alternate channel selectivity 65 dB
Capture ratio 1.0 dB
Image rejection at 98 MHz 40 dB
IF rejection at 98 MHz 70 dB
Spurious response rejection at 98 MHz 70 dB
AM suppression 50 dB
Stereo separation
1 kHz 40 dB
10 kHz 30 dB
Carrier leak
19 kHz −30 dB (−35 dB, IHF)
38 kHz −45 dB (−50 dB, IHF)
Channel balance (250 Hz~6,300 Hz) ±1.5 dB
Limiting point 1.2 µV

Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

Bandwidth	
IF amplifier	180 kHz
FM demodulator	1000 kHz
Antenna terminals	75 Ω (unbalanced)

■ AM TUNER SECTION

Frequency range	522 kHz~1611 kHz (9-kHz steps) 530 kHz~1620 kHz (10-kHz steps)
Sensitivity (S/N 20 dB)	20 μV, 330 μV/m
Selectivity at 999 kHz	55 dB
Image rejection at 999 kHz	40 dB
IF rejection (at 999 kHz)	55 dB

■ GENERAL

Power consumption	250 W
Power supply	
For Oceania	AC 50 Hz/60 Hz, 240 V
For Third Region	AC 50 Hz/60 Hz, 110 V/127 V/220 V/240 V
Dimensions (W × H × D)	430 × 114 × 300 mm (16-15/16" × 4-1/2" × 11-13/16")
Weight	6.3 kg (13.9 lb.)

Note:
Total harmonic distortion is measured by the digital spectrum analyzer.

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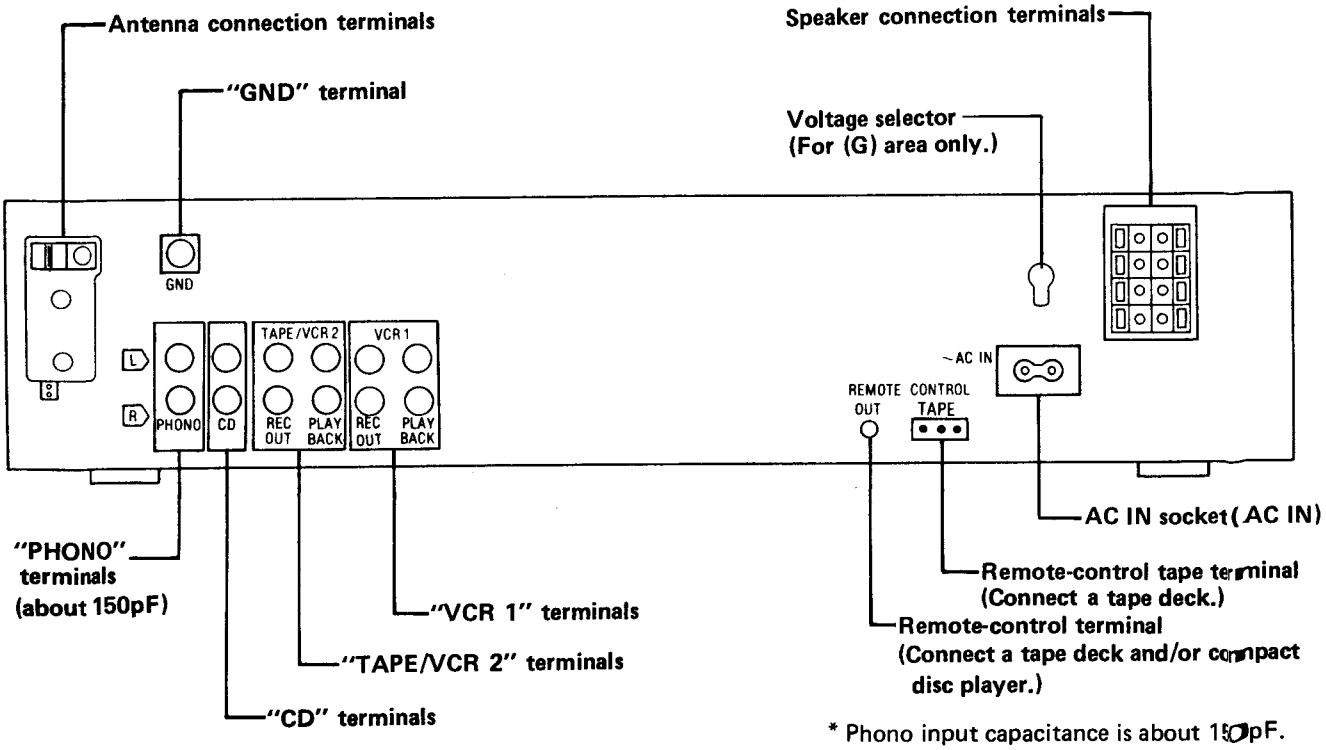
■ CONNECTIONS TO EQUIPMENT



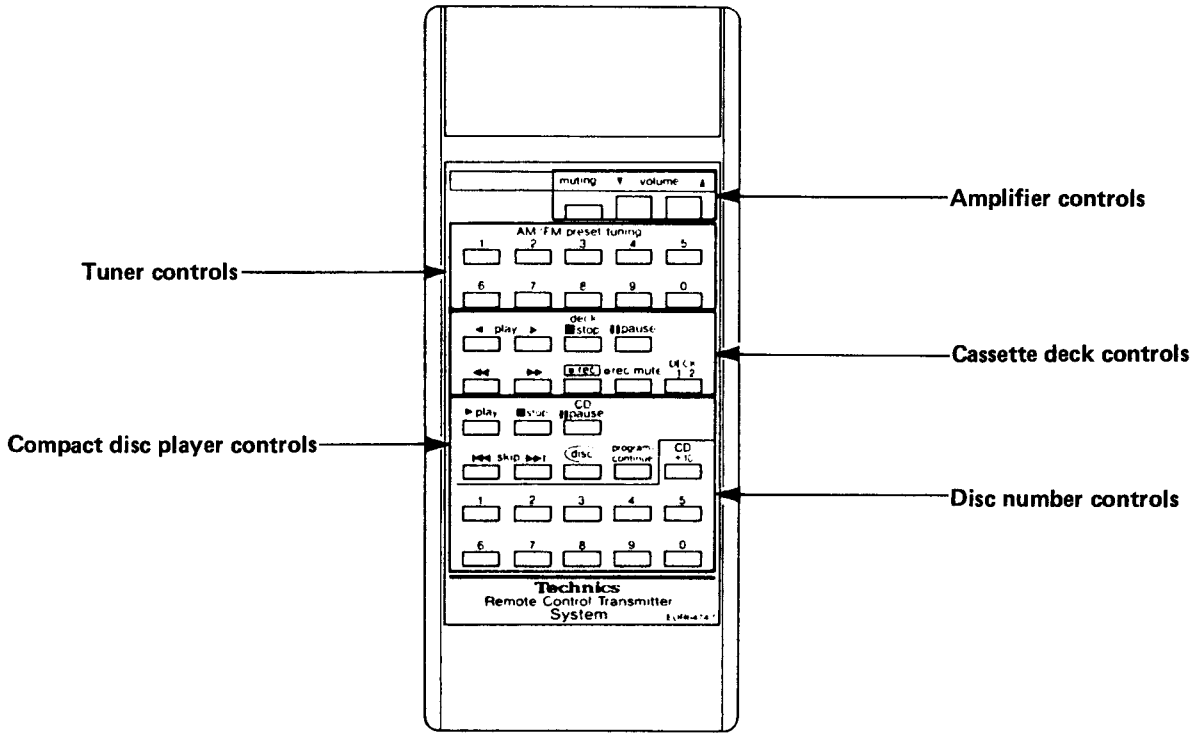
* Phono input capacitance is about 150pF.

■ BEFORE USE

Be sure to disconnect the mains cord before adjusting the voltage selector.
Use a minus (−) screwdriver to set the voltage selector (on the rear panel) to the voltage setting for the area in which the unit will be used.

(If the power supply in your area is 117 V or 120 V, set to the "127 V" position.)
Note that this unit will be seriously damaged if this setting is not made correctly. (There is no voltage selector for some countries; the correct voltage is already set.)

■ REMOTE-CONTROL OPERATION

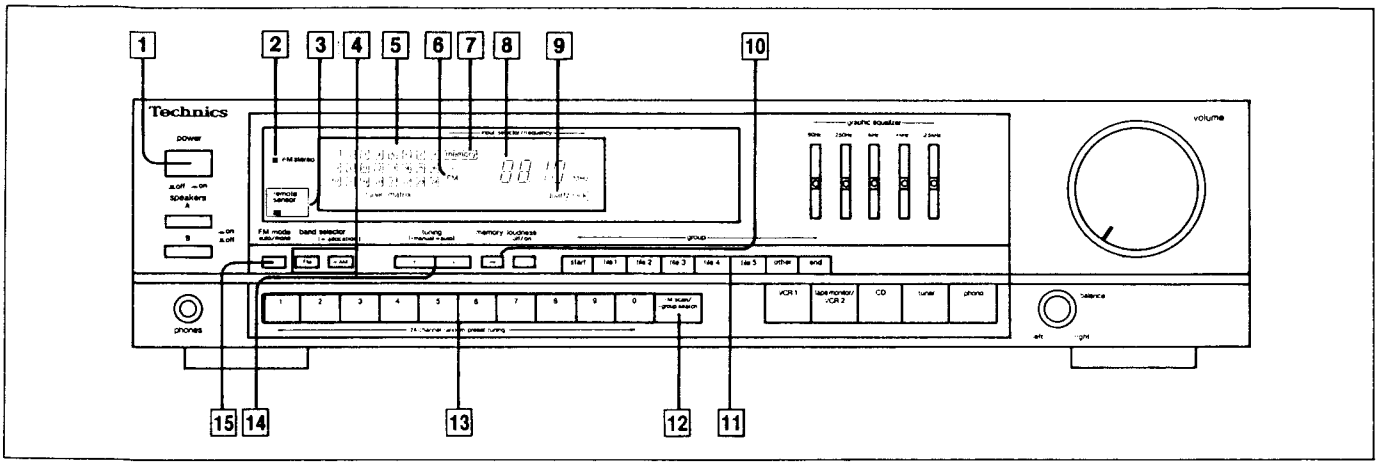


■ ACCESSORIES

- FM indoor antenna (1) (SSA269M)
- AM loop antenna (1) (SPB1162T)
- AM antenna holders (2) (SMA233–1M) (SMA231M)
- AC power supply cord (1) (RJA0004) . . . . . (G) (SJA173) . . . . . (GN)
- Remote-control transmitter (1) (EUR64747)
- Screws (2) (XTN3+10AFZ)
- Batteries (2) (UM-4NEP/2S)
- Connection cable for remote-control (1) (SJP2257T)
- Flat cable for remote-control (1) (SWKST11M–1)

■ FRONT PANEL CONTROLS AND FUNCTIONS

Tuner section



[1] Power switch (power)

[2] FM stereo indicator (FM stereo)
This indicator automatically illuminates when an FM stereo broadcast is being received.
Note:
It will not illuminate if the FM mode selector is set to the monaural mode.

[3] Remote-control signal receptor (remote sensor)
Receives the signals from the remote-control transmitter.

[4] Band selectors (band selector)
FM: Press this button to listen to an FM broadcast.
AM: Press this button to listen to an AM broadcast.
allocation: When the AM button is pressed for about 4 seconds, the AM frequency step will change to 10 kHz per step. (This unit is set to 9 kHz before shipment.) In order to return to the original frequency indications, press this button for about 4 seconds again.

[5] Preset channel matrix display (tuner matrix)
When an entry is made to the memory, the figure's outer frame illuminates.
The outer frame of the "channel" now being received flashes continuously.

[6] Band indicators (AM/FM)
Indicates the selected band.

[7] Memory indicator (memory)
This indicator illuminates when the memory button is pressed.

[8] Audio input selector/frequency display (input selector/frequency)
Displays the selected source or broadcast frequency.

[9] Quartz-lock indicator (quartz lock)
This indicator illuminates when the unit is tuned precisely to a broadcast station.

[10] Memory button (memory)
This button is used when presetting broadcast station frequencies into memory.

[11] Group registration buttons (group)
These buttons are used to assign memory presets to the desired group or to select the desired group.

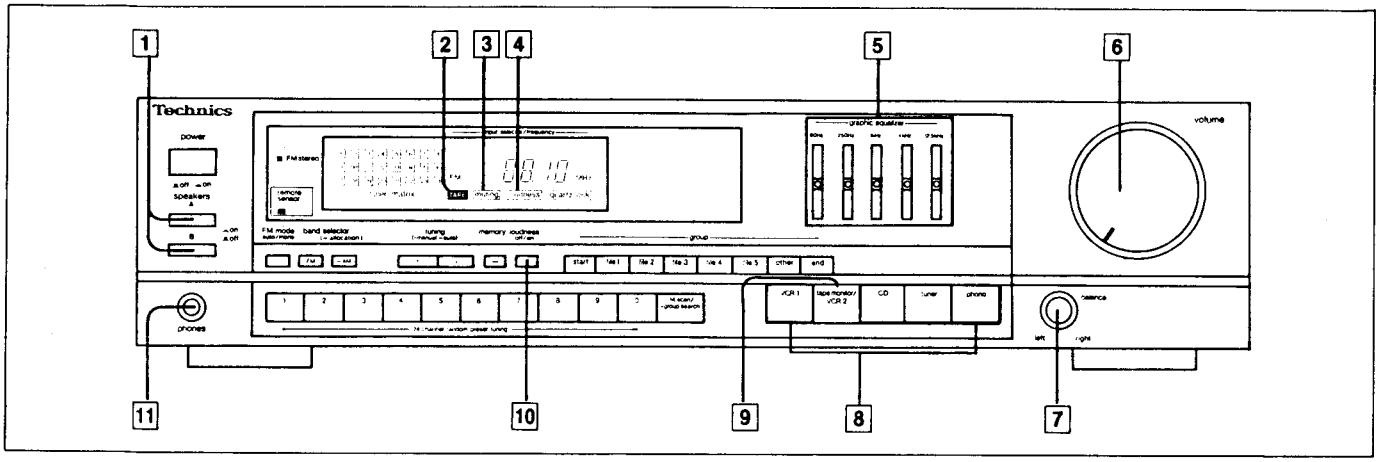
[12] Music-scan/group-search button (-M. scan/−group search)
This button is used to scan the memory presets within a group (for about three seconds each) or to search for the desired group.

[13] Preset-tuning buttons (1−0) (24 channel random preset tuning)
These buttons are used to preset broadcast frequencies into the memory of this unit, and to recall the desired preset stations.

[14] Tuning buttons (tuning)
These buttons are used for tuning to the desired broadcast station. If the button is pressed momentarily and then released, the frequency will change at intervals of 0.05 MHz for FM and 9 kHz (or 10 kHz) for AM.

[15] FM mode selector (FM mode)
This unit automatically switches to the stereo mode when an FM stereo broadcast is received. This selector is used to select the mode (stereo or monaural) of FM broadcast signals.

Amplifier section



1 Speaker selectors (speakers)

These selectors are used to select the speaker system(s) (A and/or B).

2 Tape indicator (TAPE)

This indicator will illuminate when the tape-monitor switch is pressed.

3 Muting indicator (muting)

This indicator will illuminate when the muting button (on the remote-control transmitter) is pressed.
To cancel the muting function without using the remote-control transmitter, press and hold the "phono" input selector of this unit for about 5 seconds.
Note:
The unit will switch to the phono mode.

4 Loudness indicator (loudness)

This indicator will illuminate when the loudness button is pressed.

5 Equalization controls (graphic equalizer)

These controls are used to adjust the levels within each frequency band. The levels can be varied over a range of +10 dB~−10 dB.

6 Volume control/indicator (volume)

7 Balance control (balance)

8 Input selector buttons

(phono/tuner/CD/tape monitor/VCR 2)
These buttons are used to select the sound source to be heard, such as a disc, radio broadcasts, etc. The selected sound source is shown on the audio input selector/frequency display.
(VCR1, tape monitor/VCR2, CD, tuner, phono)

9 Tape-monitor/VCR 2 switch

Press this button to listen to a tape or a second VCR.
No other source selected by an input selector can be heard while the tape indicator is illuminated. To listen to some other source, press this switch once again.

10 Loudness switch (loudness)

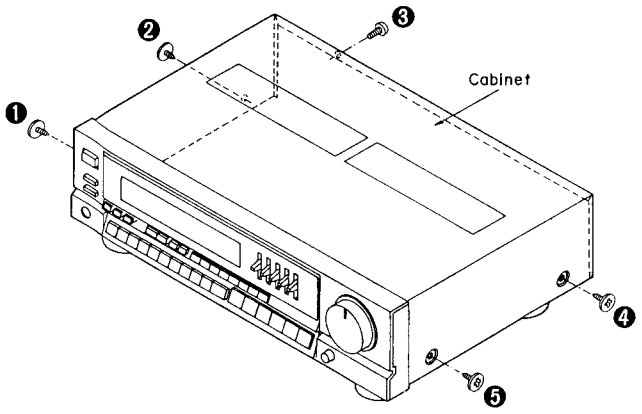
Set to the "on" position (the loudness indicator will illuminate); when listening to music at low volume. Auditory perception of sound in the low frequency range falls off at low volume, but when the switch is in this position, this deficiency is compensated for, so that the full impact of the musical performance can be enjoyed.

11 Headphone jack (phones)

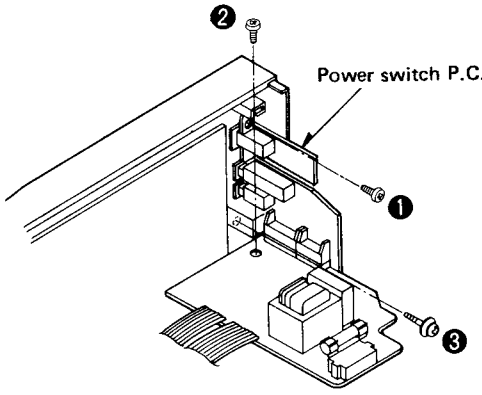
■ DISASSEMBLY INSTRUCTIONS

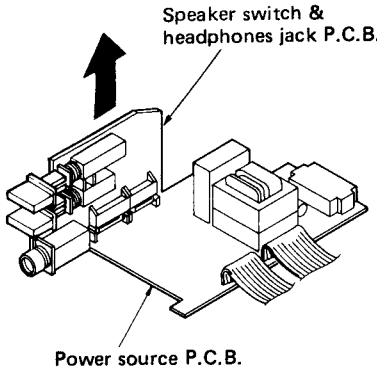
"ATTENTION SERVICER"
Some chassis components may have sharp edges. Be careful when disassembling and servicing.

Ref No. 1	Removal of the cabinet
Procedure 1	• Remove the 5 screws (❶ ~ ❺).

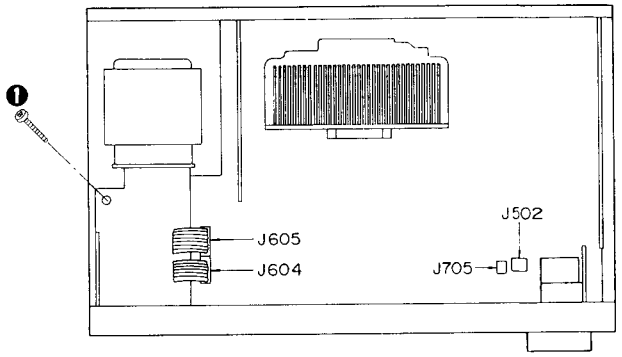


Ref. No. 3	Removal of the power switch P.C.B., speaker switch & headphones jack P.C.B. and power source P.C.B.
Procedure 1 ➡2 ➡3	1. Remove the 3 screws (❶ ~ ❸). 2. Remove the speaker switch & headphones jack P.C.B. in the direction of the arrow.

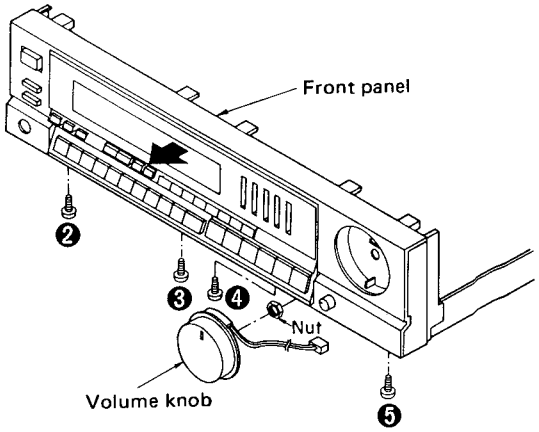




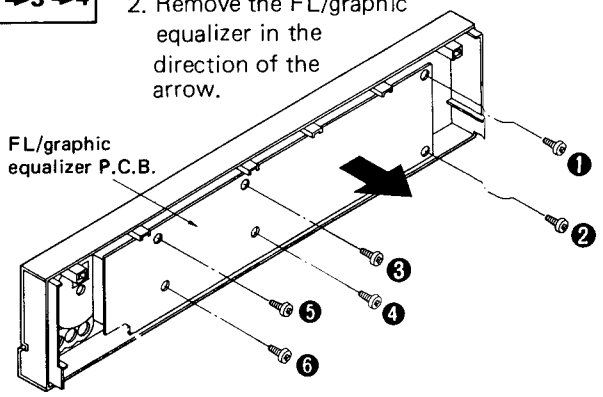
Ref. No. 2	Removal of the front panel
Procedure 1 ➡2	1. Remove the 1 screw (❶). 2. Remove the 1 connector (J705). 3. Remove the 3 flat cables (J502, J604, J605).



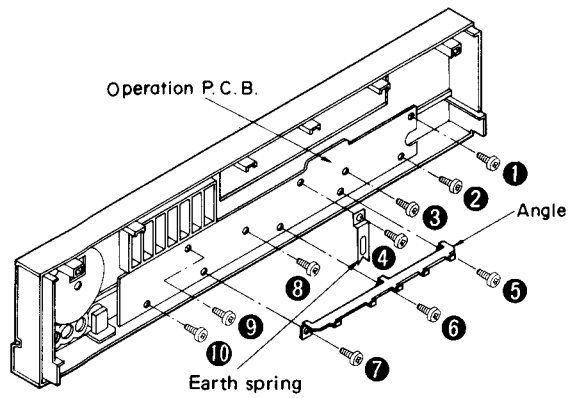
4. Remove the volume knob and nut.
5. Remove the 4 screws (❷ ~ ❺).
6. Pull out the front panel in the direction of the arrow.



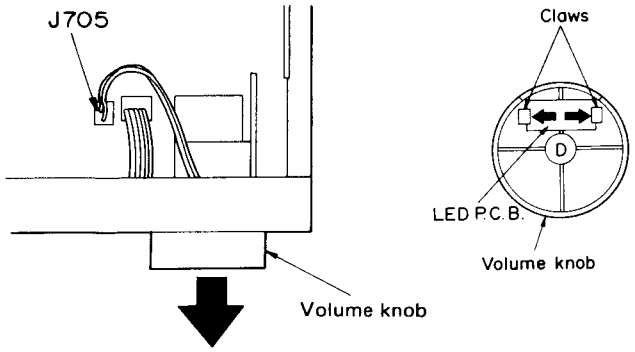
Ref. No. 4	Removal of the FL/graphic equalizer P.C.B.
Procedure 1➡2 ➡3 ➡4	1. Remove the 6 screws (❶ ~ ❻). 2. Remove the FL/graphic equalizer in the direction of the arrow.



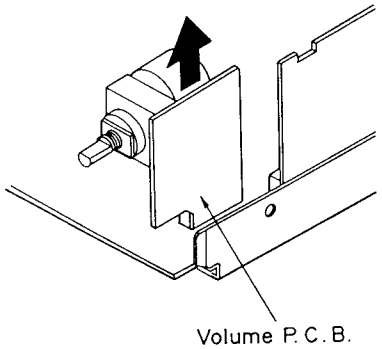
Ref. No. 5	Removal of the operation P.C.B.
Procedure 4 →5	• Remove the 10 screws (❶ ~ ⑩).



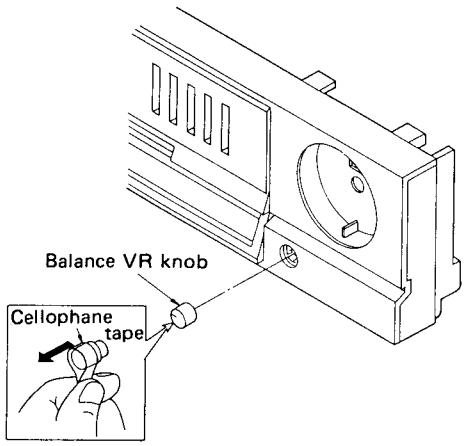
Ref. No. 7	Removal of the LED P.C.B.
Procedure 1 →7	1. Remove the 1 connector (J705). 2. Pull out the volume knob in the direction of the arrow. 3. Release the 2 claws.

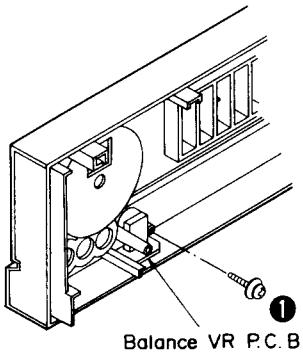


Ref. No. 8	Removal of the volume P.C.B.
Procedure 1 →2 →8	• Pull out the volume P.C.B. in the direction of the arrow.

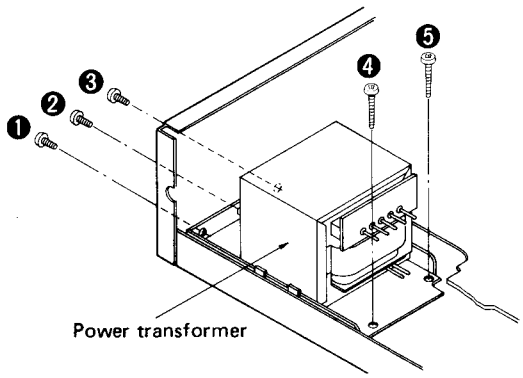


Ref. No. 6	Removal of the balance VR P.C.B.
Procedure 4 →6	1. Remove the balance VR knob. 2. Remove the 1 screw (❶).



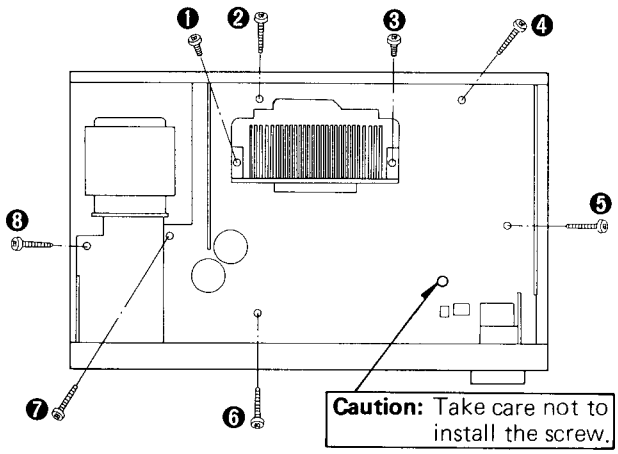


Ref. No. 9	Removal of the power transformer
Procedure 1 →2 →9	• Remove the 5 screws (❶ ~ ❺).

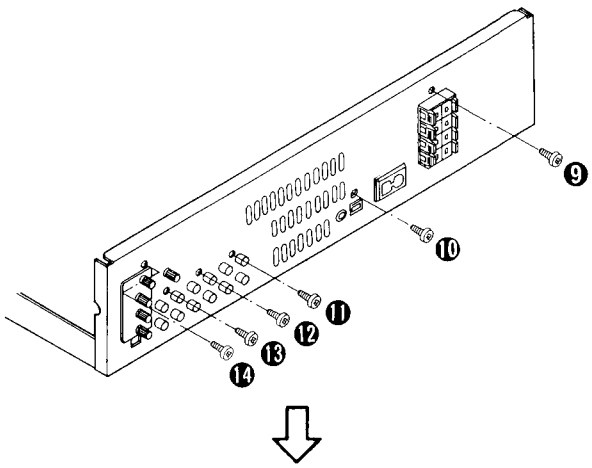


Ref. No. 10	Removal of the main P.C.B., tuner P.C.B. and speaker terminal P.C.B.
Procedure 1 →10	

1. Remove the 18 screws (❶ ~ ⑱).

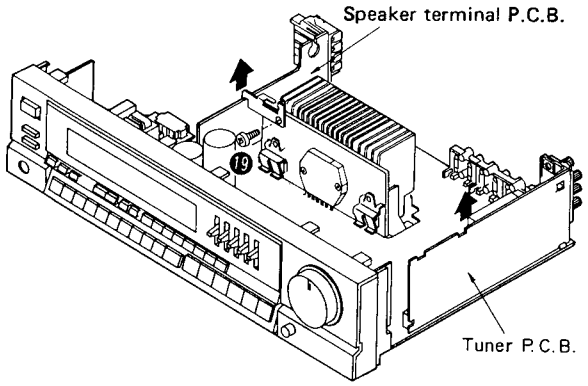


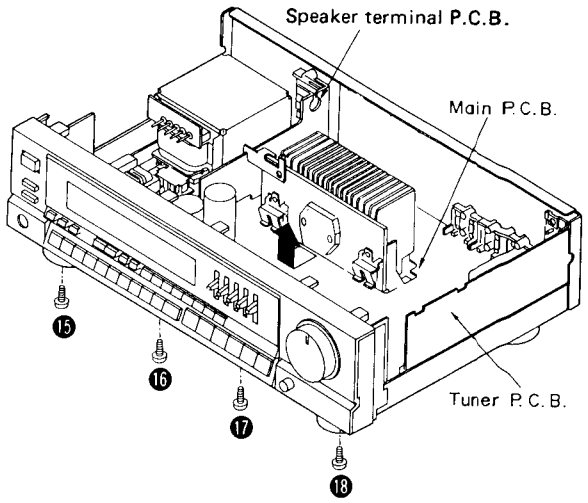
Caution: Take care not to install the screw.



3. Remove the main P.C.B. in the direction of the arrow.

4. Remove the tuner P.C.B. in the direction of the arrow.

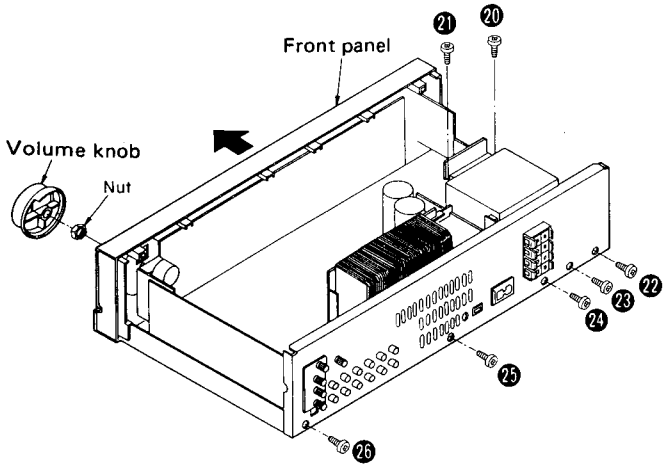




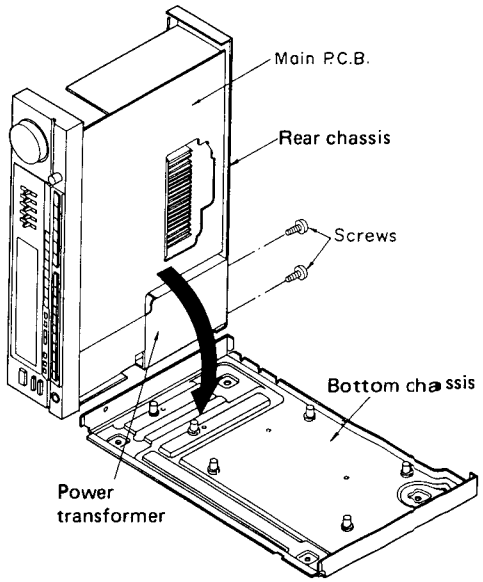
5. Remove the 1 screw (⑲).
6. Remove the speaker terminal P.C.B. in the direction of the arrow.

How to check the main P.C.B.

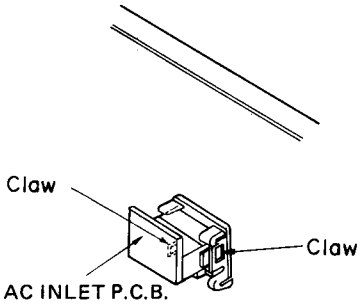
1. Remove the 11 screws (❶ ~ ❽ , ⑯ ~ ⑱) in above figure.
2. Remove the volume knob and nut.
3. Remove the front panel.
4. Remove the 7 screws (⑳ ~ ㉖).



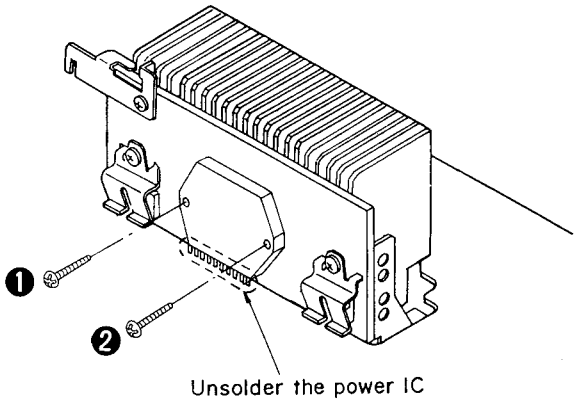
5. Remove the bottom chassis.
6. Reinstall the power transformer to the rear chassis.
7. Reinstall the front panel to the main P.C.B.



Ref. No. 11	Removal of the AC INLET P.C.B.
Procedure 1 →10 →11	● Release the 2 claws.



Ref. No. 12	Removal of the power IC
Procedure 1 →10 →12	1. Unsolder the power IC. 2. Remove the 2 screws (❶ , ❷).



Note: When mounting the power IC, apply silicon terminal compound (SZZ0L15) to the rear of the power IC.

■ PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

■ BEFORE REPAIR

(1) Turn off the power supply. Using a 10Ω, 5W resistor connect both ends of power supply capacitors (C701, C702, 4700μF) in order to discharge the voltage.

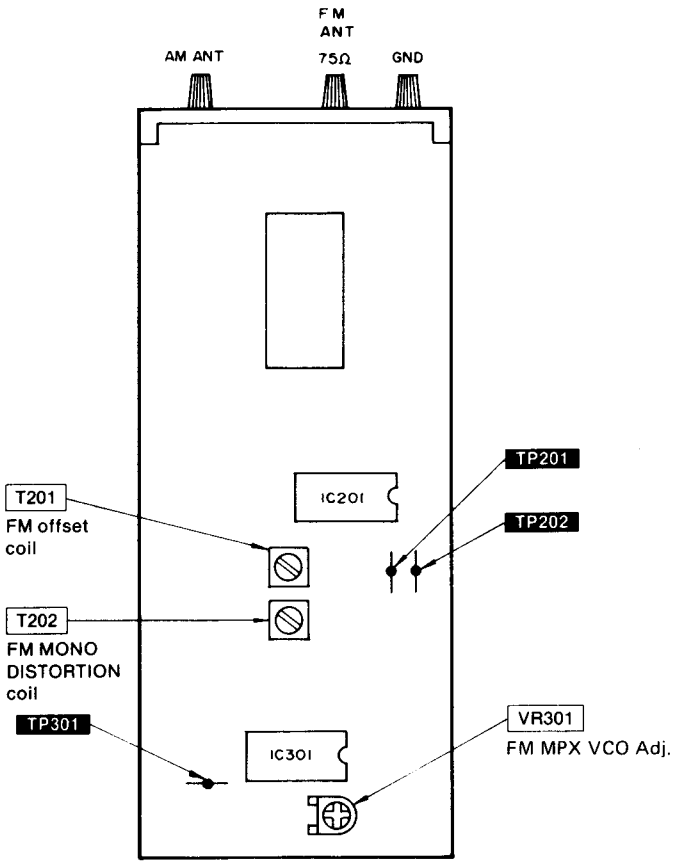
(2) Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50Hz/60Hz in NO SIGNAL mode should be shown below with respect to supply voltage 110V/127V/220V/240V.

Power supply voltage	AC110V	AC127V	AC220V	AC240V
Consumed current 50/60Hz	170～470mA	150～450mA	60～260mA	50～250mA

■ MEASUREMENTS AND ADJUSTMENTS

Note: For Z202 (AM-IFT), and Z201 (AM ANT and OSC coil), they are supplied as adjusted parts. So, do not turn the cores of the parts. It is not necessary to adjust the AM circuit.

• ADJUSTMENT POINTS



• FM ADJUSTMENT

Control positions and equipment used

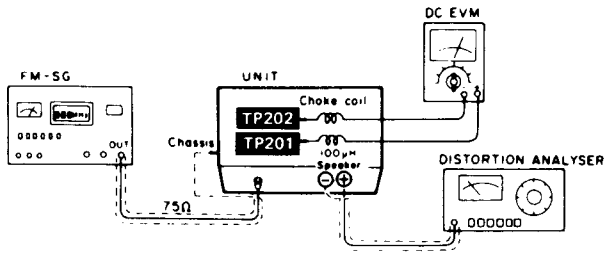
- FM signal generator (FM-SG).
- Distortion analyser
- Oscilloscope
- DC electronic voltmeter (EVM)
- Frequency counter
- Choke coil (100μH)
- Resistor (100kΩ)

FM MONO DISTORTION ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to "**FM**" position.
3. Set the radio frequency display and signal generator to **100.10MHz.**
4. Adjust **T201** core so that voltage measured in signal mode is **0mV** (0±20mV) in **300mV** range.
5. Adjust **T202** so that the distortion factor of Lch is minimized.
6. Repeat steps 4 and 5 a few times.
7. Make sure that the distortion factors of Lch and Rch are nearly the same with each other to minimum.

Note:
The adjusting screwdriver used should be made of resin.

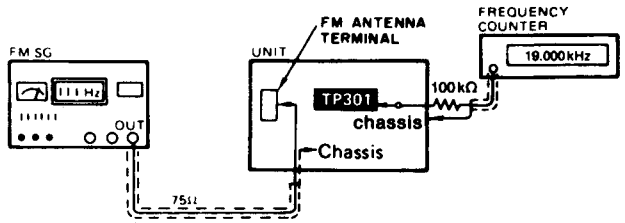
FM SIGNAL GENERATOR CONDITION
Modulation.....100%
Modulation frequency.....1kHz (MONO)
Output level.....66dB



FM MPX VCO ADJUSTMENT

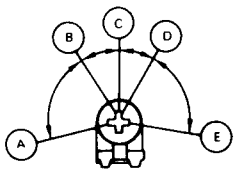
1. Test equipment connection is shown in figure.
2. Set the unit to "**FM auto**" position.
3. Place the radio frequency display and signal generator setting to **100.10MHz.**
4. Adjust **VR301** for **19.00±0.03kHz** on frequency counter reading.

FM SIGNAL GENERATOR CONDITION
Modulation.....0%
(non-modulation)
Output level.....66dB



★USING ALTERNATE SYSTEM

1. Apply stereo signal from generator or receive the stereo broadcast.
2. Adjust **VR301** until stereo indicator lights up. Cement arm of **VR301** as shown in figure.



VR301

Ⓐ – Ⓑ Ⓓ – Ⓔ : Stereo OFF position
Ⓑ – Ⓓ : Stereo ON position (indicator lighting)
Ⓒ : Adjust point of pilot circuit

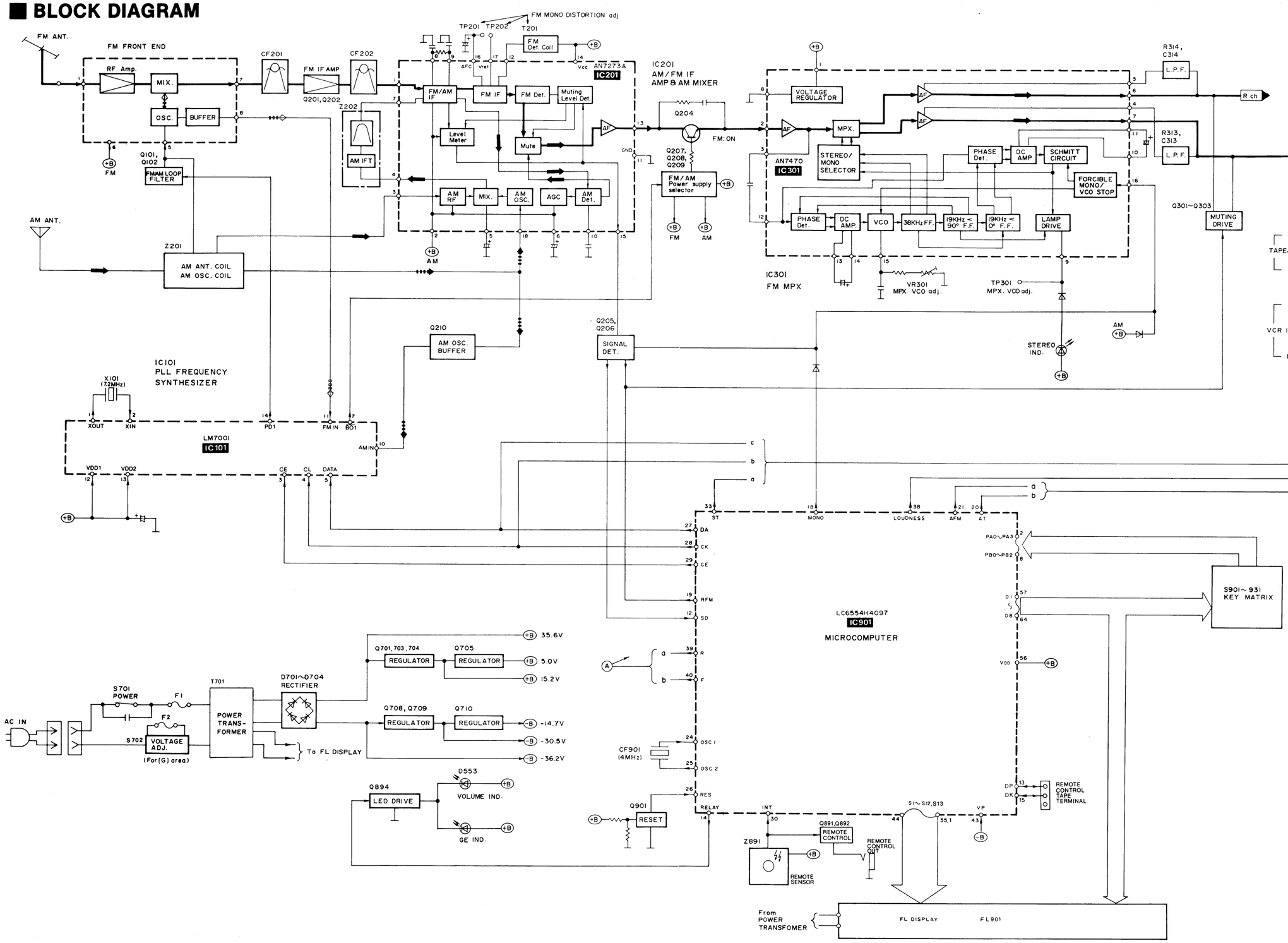
■TERMINAL FUNCTION OF IC

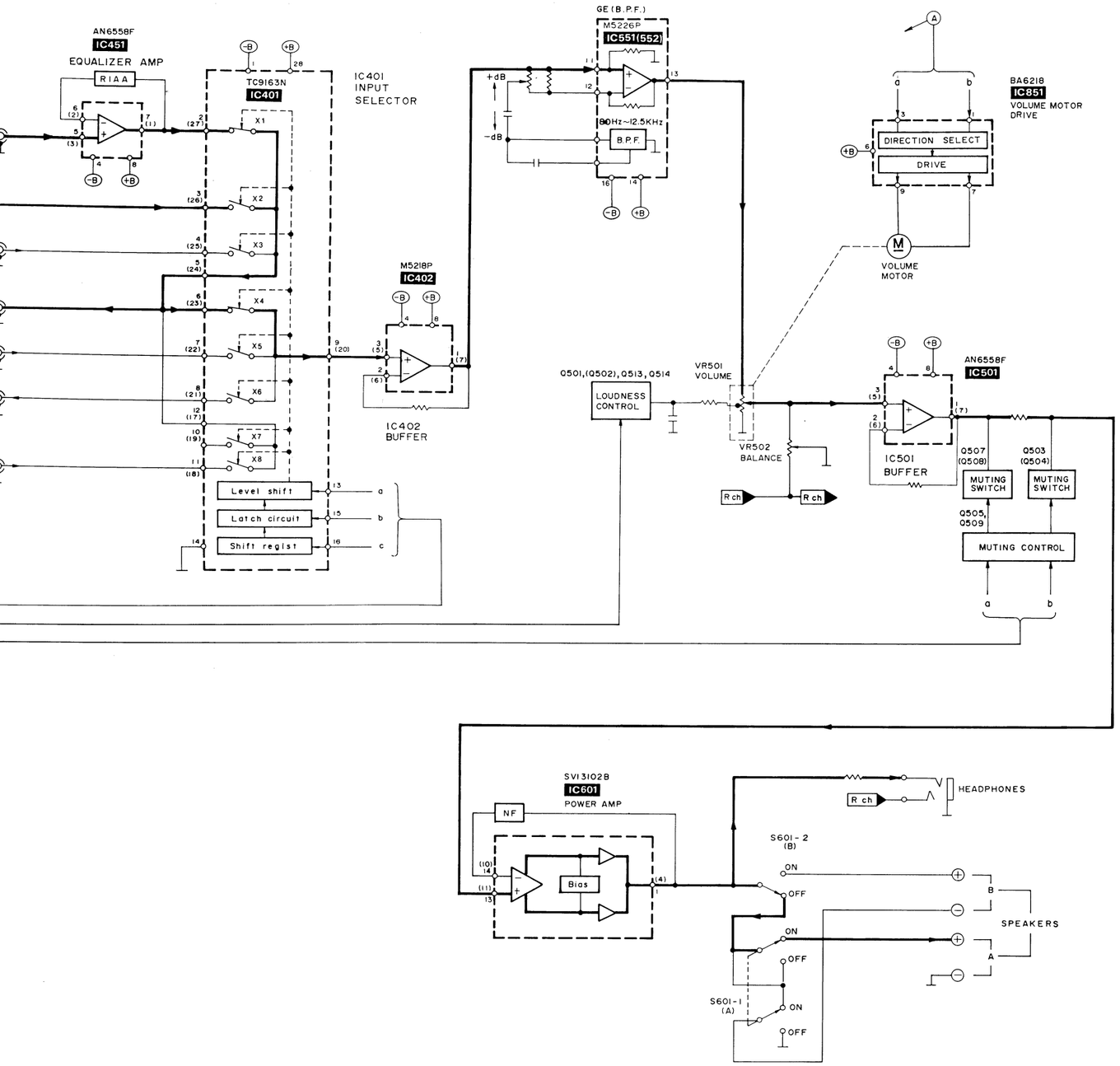
- **IC901 (LC6554H4097): Microcomputer**

Pin No.	Mark	I/O Division	Function
1	S13	O	Segment signal output
2 ~ 5	PA0 ~ PA3	I	Key return signal input
6 ~ 8	PB0 ~ PB2	I	Key return signal input
9	STAND BY	I	Power supply terminal
10	OFF	I	Power ON/OFF det. terminal (Not used, open)
11	STEREO	I	Stereo signal det. terminal
12	SD	I	Received signal det. terminal
13	DP	I/O	Cassette deck control terminal
14	RELAY	O	Relay control output
15	DK	I	Cassette deck control terminal
16	START	——	Not used, connected to GND
17	STOP	——	Not used, open
18	MONO	O	FM AUTO/MONO select signal output
19	RFM	O	Muting control output for tuner circuit
20	AT	O	Muting control output for amplifier circuit
21	AFM	O	Muting control output for amplifier circuit
22	TP	——	Not used, connected to GND
23	Vss	——	Ground terminal
24	OSC1	I	Oscillator terminal
25	OSC2	O	
26	RES	I	Reset signal input
27	PF0/DA	O	Serial data output
28	PF1/CK	O	Clock signal terminal for serial data
29	PF2/CE	I/O	Chip enable terminal
30	PF3/$\overline{INT}$	I	Remote control input
31	D1	——	Not used, connected to GND
32	CK	——	Not used, connected to GND

Pin No.	Mark	I/O Division	Function
33	ST	O	Level shift control output
34	AF MODE	——	Not used, connected to GND
35	VA		
36	Vs		
37	Vc		
38	LOUDNESS	O	Loudness ON/OFF signal output
39	R	O	Volume motor drive output
40	F		
41	NC	——	Not used, connected to GND
42	NC		
43	Vp	I	Power supply terminal (negative voltage)
44 ~ 55	S1 ~ S12	O	Segment signal output
56	VDD	I	Power supply terminal (positive voltage)
57 ~ 64	D1 ~ D8	O	Digit signal and key scan signal output

■ BLOCK DIAGRAM





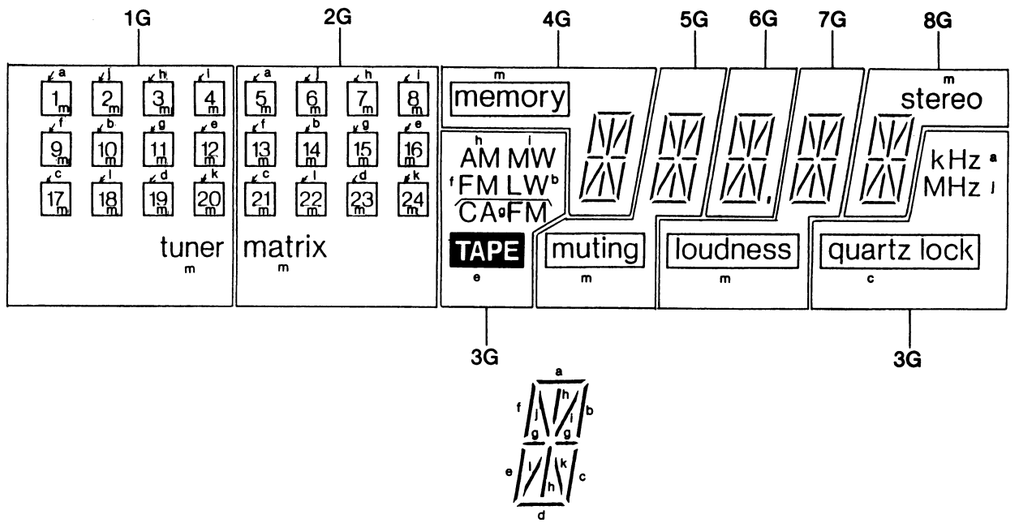
Note:

- FM Signal
- FM OSC
- AM Signal
- AM OSC

* ( ) indicates Pin No. of right channel.

■ INTERNAL CONNECTION OF FL

- Grid assignment diagram



- Pin connection

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
CONNECTION	NP	F2	NP	NP	m	NP	8G	NP	NP	7G	NP	NP	6G	NP	5G	NP	NP	4G	NP	3G	NP	2G

PIN NO.	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
CONNECTION	NP	1G	NP	NP	NP	a	j	h	i	f	b	g	e	c	l	d	k	NP	NP	NP	F1	NP

- Anode connecton table

	1G	2G	3G	4G	5G	6G	7G	8G
a	□ 1	□ 5	KHz	a	a	a	a	a
b	□ 10	□ 14	LW	b	b	b	b	b
c	□ 17	□ 21	quartz lock	c	c	c	c	c
d	□ 19	□ 23	-	d	d	d	d	d
e	□ 12	□ 16	TAPE	e	e	e	e	e
f	□ 9	□ 13	FM	f	f	f	f	f
g	□ 11	□ 15	CAFM	g	g	g	g	g
h	□ 3	□ 7	AM	h	h	h	h	h
i	□ 4	□ 8	MW	i	i	i	i	i
j	□ 2	□ 6	MHz	j	j	j	j	j
k	□ 20	□ 24	-	k	k	k	k	k
ℓ	□ 18	□ 22	-	ℓ	ℓ	ℓ	ℓ	ℓ
m	1~4 9~12 17~20 tuner	5~8 13~16 21~24 matrix	-	memory	muting	D.P	loud ness	stereo

■ SCHEMATIC DIAGRAM

(Parts list on pages 35 ~ 40)

(This schematic diagram may be modified at any time with the development of new technology.)

Note 1:

- **S601-1, S601-2** : Speaker selectors.
  S601-1: A S601-2: B
- **S701** : Power **"on/off"** switch.
- **S702** : Voltage selector switch. (For (G) area.)
- **S901 ~ S910** : Preset-tuning (1-0) switches.
  [S901 : CH1, S902 : CH2, S903 : CH3, S904 : CH4, S905 : CH5, S906 : CH6, S907 : CH7, S908 : CH8, S909 : CH9, S910 : CH0]
- **S911** : Music-scan/group-search switch.
- **S912** : FM mode selector.
- **S913, S914** : Band selectors.
  S913 : FM, S914 : AM
- **S915, S916** : Tuning switches.
  S915 : ▼ (DOWN), S916 : ▲ (UP)
- **S917** : Memory switch.
- **S918** : Loudness switch.
- **S919 ~ S926** : Group registration switches.
  [S919 : start, S920 : rock, S921 : jazz, S922 : classic, S923 : easy, S924 : news, S925 : other, S926 : end]
- **S927 ~ S929, S931** : Input selector switches.
  [S927 : phono, S928 : tuner, S929 : CD, S931 : VCR1]
- **S930** : Tape-monitor/VCR 2 switch.

- Signal line
  - : FM OSC / : FM signal
  - : AM OSC / : AM signal
  - : Phono signal / : AF signal (Lch)
  - : Positive voltage lines
  - : Negative voltage lines

- Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts. Indicated boltage values are standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on internal impedance of the DC circuit tester.
- All voltage values shown in circuitry are DC voltage in FM signal (Stereo signal) reception mode.

* Figures in ( ) Stand for DC-voltage in AM signal reception mode.

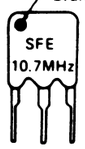
* **Caution!**
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
* Cover the parts boxes made of plastics with alminum foil.
* Ground the soldering iron.
* Put a conductive mat on the work table.
* Do not touch the legs of IC or LSI with the fingers directly.

Note2:

• Use of ceramic filters in pairs

The ceramic filters (CF201, CF202) for FM-IF circuit are available in three ranks. For this circuit, be sure to use the ceramics of the same rank in a pair.
At repairing and replacement, pay close attention to the diodes (D914, D915) for use as different diodes must be used depending on each rank of the ceramic filters.

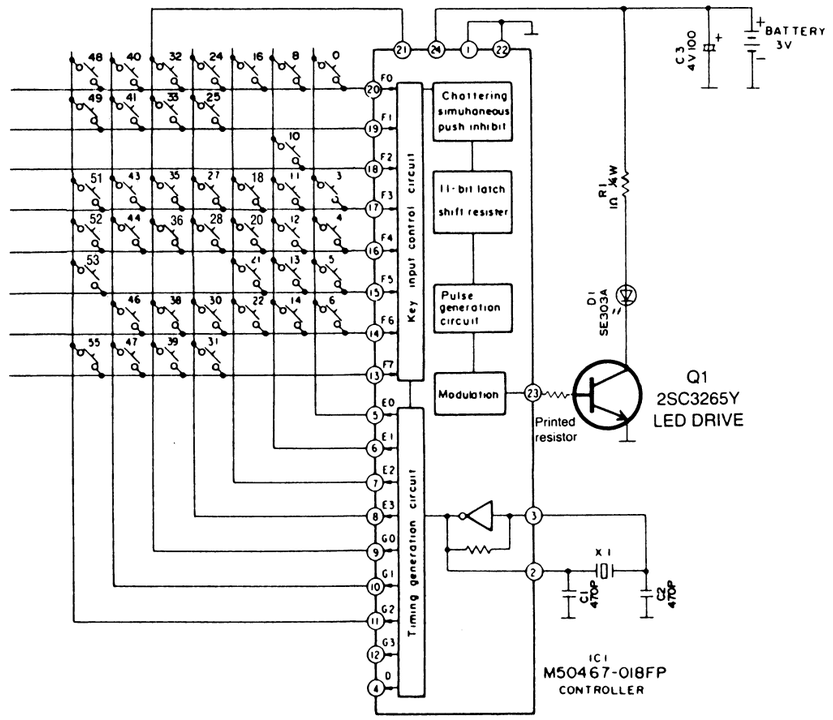
Color marking (Blue, Red or Orange)



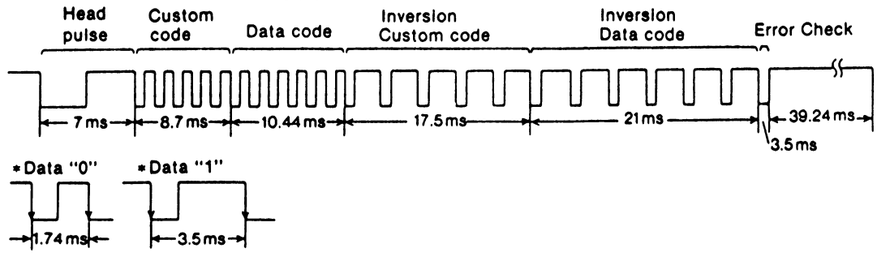
RANK (Color)	D914	D915	CENTER FREQUENCY
Blue	○	×	10.675MHz
Red	×	×	10.700MHz
Orange	×	○	10.725MHz

Note: ○ mark: Diode is used.
× mark: Diode is not used.

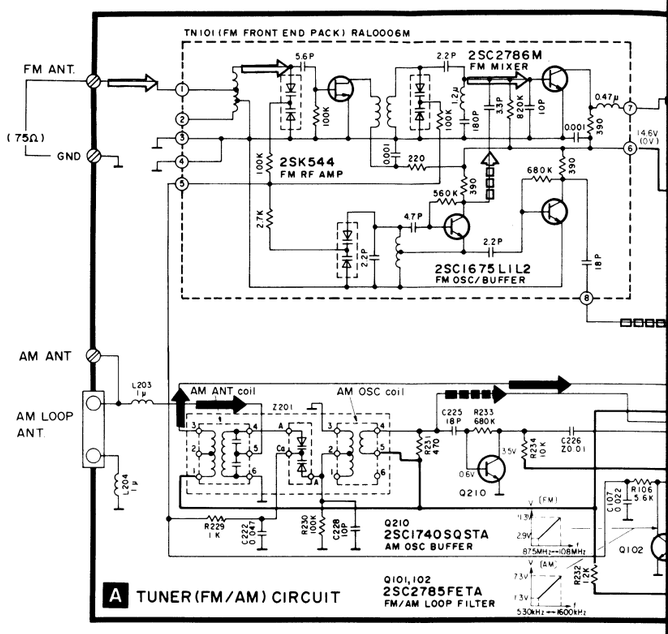
• Remote-control transmitter (EUR64747)

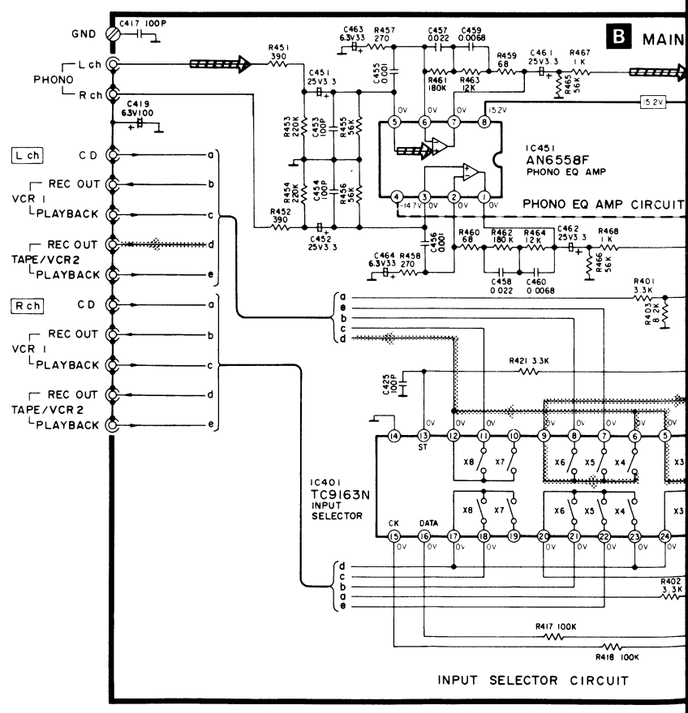


• Remote control data code



Key No.	Function	Custom Code	Data Code	Key No.	Function	Custom Code	Data Code
0	CD5	01100	010100	30	Tuner 8	01001	010111
3	DECK rec mute	01001	000111	31	Tuner 1	01001	010000
4	DECK play ◀	01001	001001	32	CD9	01100	011000
5	Volume up	01001	100100	33	CD2	01100	010001
6	Tuner 5	01001	010100	35	CD skip ◀◀	01100	000010
8	CD6	01100	010101	36	DECK pause	01001	000110
10	program/continue	01100	011101	38	Tuner 9	01001	011000
11	CD play	01100	001010	39	Tuner 2	01001	010001
12	DECK play ▶	01001	001010	40	CD0	01100	011001
13	Volume down	01001	100101	41	CD3	01100	010010
14	Tuner 6	01001	010101	43	CD skip ▶▶	01100	000011
16	CD7	01100	010110	44	DECK stop	01001	000000
19	CD pause	01100	000110	46	Tuner 0	01001	011001
20	DECK ◀◀	01001	000010	47	Tuner 3	01001	010010
21	Muting	01001	100111	48	CD +10	01100	011010
22	Tuner 7	01001	010110	49	CD4	01100	010011
24	CD8	01100	010111	51	Disc	01100	100110
25	CD1	01100	010000	52	DECK rec	01001	001000
27	CD stop	01100	000000	53	DECK 1/2	01001	000100
28	DECK ▶▶	01001	000011	55	Tuner 4	01001	010011





7 8 9 10 11 12 13 14 15 16

(FRONT END PACK) RAL0006M

2SC2786M FM MIXER

2SK544 FM RF AMP

2SC1675L1L2 FM OSC/BUFFER

AM OSC coil

Q210 2SC1740SQSTA AM OSC BUFFER

(M) CIRCUIT

Q101,102 2SC2785FETA FM/AM LOOP FILTER

Q201,202 2SC2787LTA FM IF AMP

IC201 AN7273A FM/AM IF AMP, DET & AM MIXER

IC101 LM7001 PLL FREQUENCY SYNTHESIZER

Q204 2SC1740SQSTA FM/AM SELECTOR

IC301 AN7470 FM MPX

FM off set voltage (0mV)

TP201 TP202

FM DET coil

MPX VCO adj

19kHz output TP301

Q208,209 2SA933SQRSTA POWER SUPPLY (FM/AM)

Q207 2SC1740SQSTA POWER SUPPLY (FM/AM)

Q206 2SA933SQRSTA SIGNAL DET.

Q205 2SC1740SQSTA SIGNAL DET

Q303 2SA933SQRSTA MUTING CONTROL

Q301,302 2SD1450QRSTA MUTING

C BALANCE VR CIRCUIT

(BALANCE) VR502 100KG

J502

D VOLUME/MOTOR DRIVE CIRCUIT

(VOLUME) VR501-1 VR501-2

Q501,502 2SJ40CDTA MUTING

IC851 BA6218 MOTOR DRIVE

DIRECTION SELECTOR DRIVE

MOTOR

J501

B MAIN CIRCUIT

BUFFER AMP CIRCUIT

Q503,504,507,508 2SK381CDTA MUTING

IC451 AN6558F PHONO EQ AMP

PHONO EQ AMP CIRCUIT

IC501 AN6558F BUFFER AMP

Q505,509 2SA933SQRSTA MUTING CONTROL

IC401 TC9163N INPUT SELECTOR

IC402 M5218P BUFFER AMP

Q513,514 UN4211TA LOUDNESS CONTROL

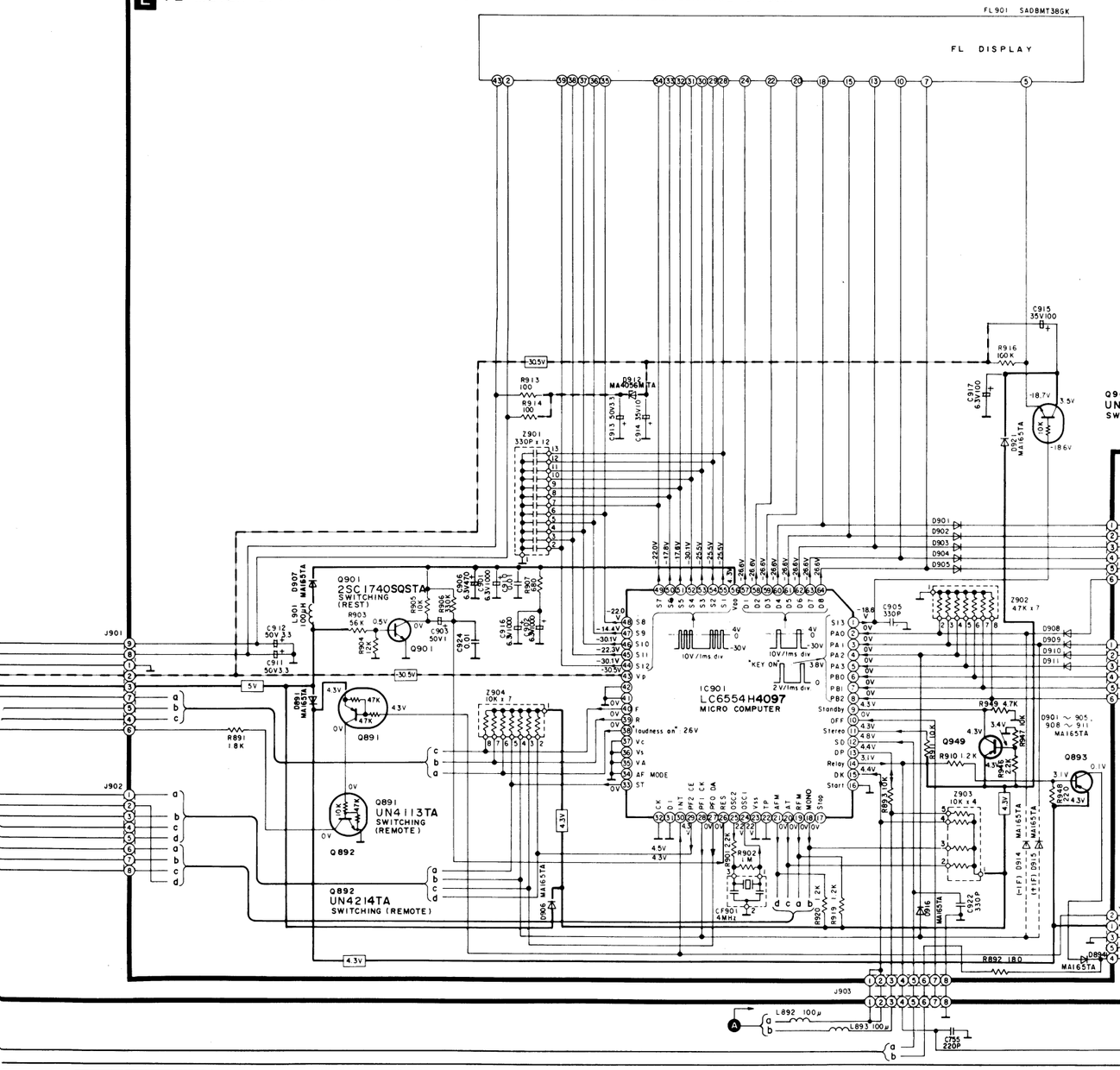
INPUT SELECTOR CIRCUIT

J502 J901 J902

REMOTE CONTROL (OUT)

17 18 19 20 21 22 23 24 25 26 27

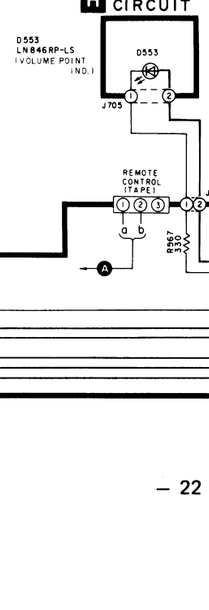
E FL METER DRIVE / GRAPHIC EQUALIZER AMP CIRCUIT — SYSTEM CONTROL CIRCUIT



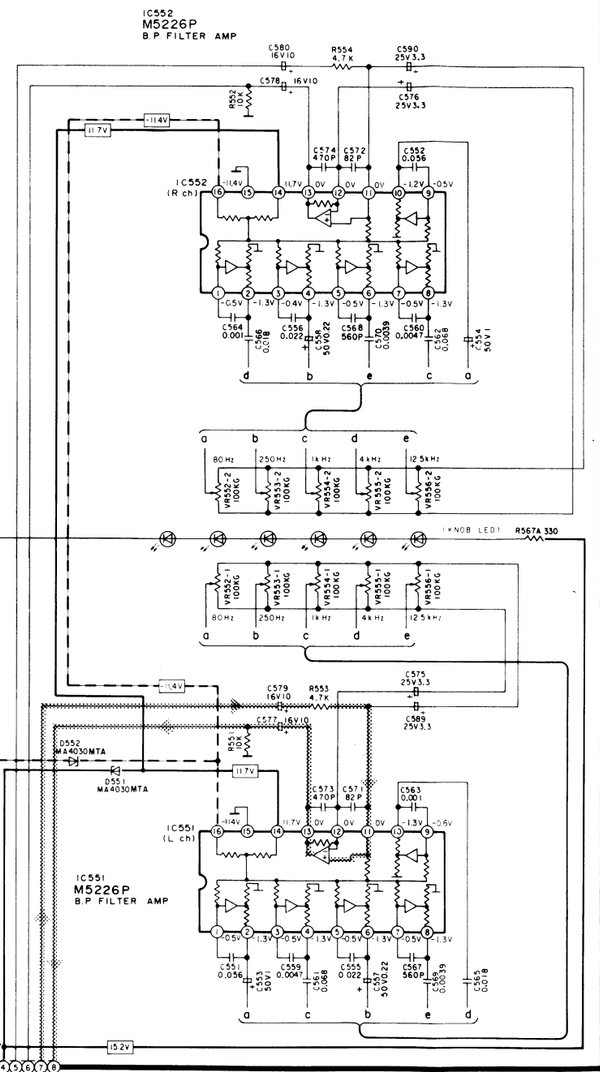
F OPERATION SWITCH CIRCUIT

G LED / REMOTE SENSOR CIRCUIT

H LED CIRCUIT



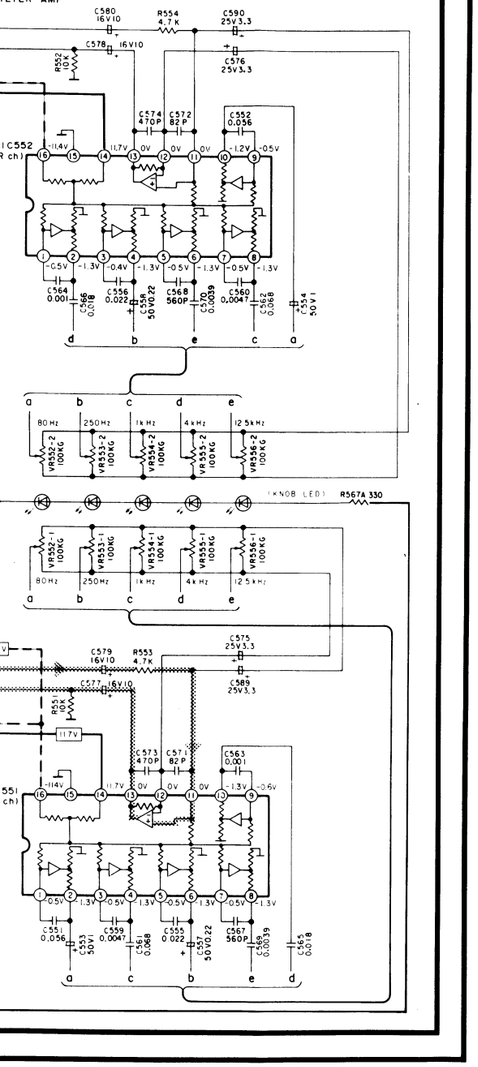
GRAPHIC EQUALIZER AMP CIRCUIT



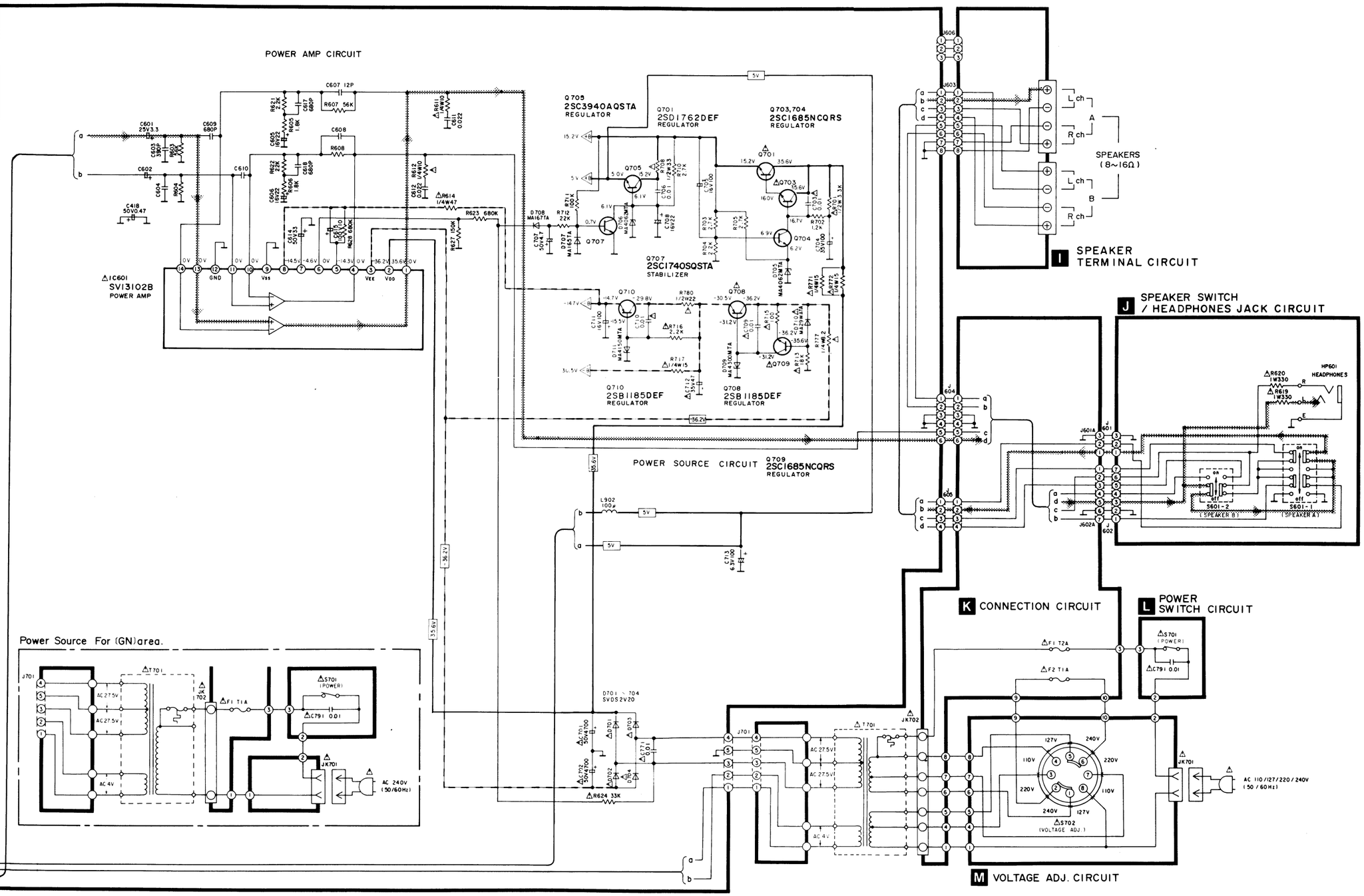
26 27 28 29 30 31 32 33 34 35

EQUALIZER AMP CIRCUIT

26P
ILTER AMP



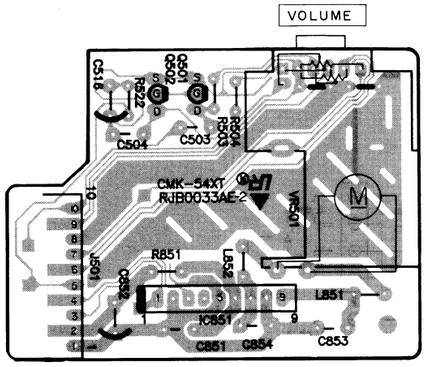
POWER AMP CIRCUIT



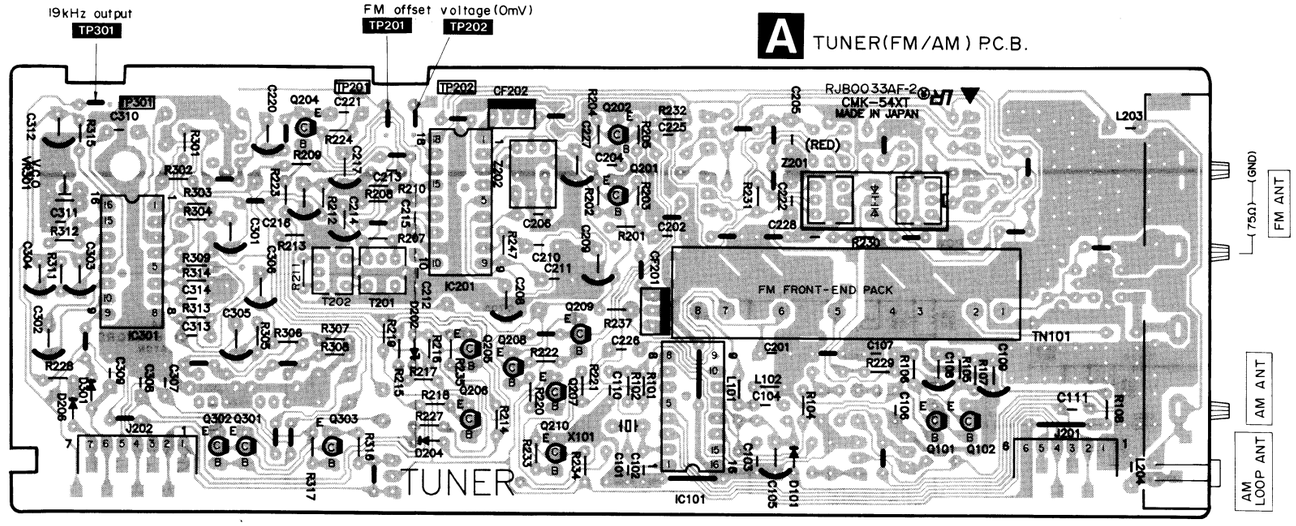
Power Source For (GN)area.

■ PRINTED CIRCUIT BOARDS

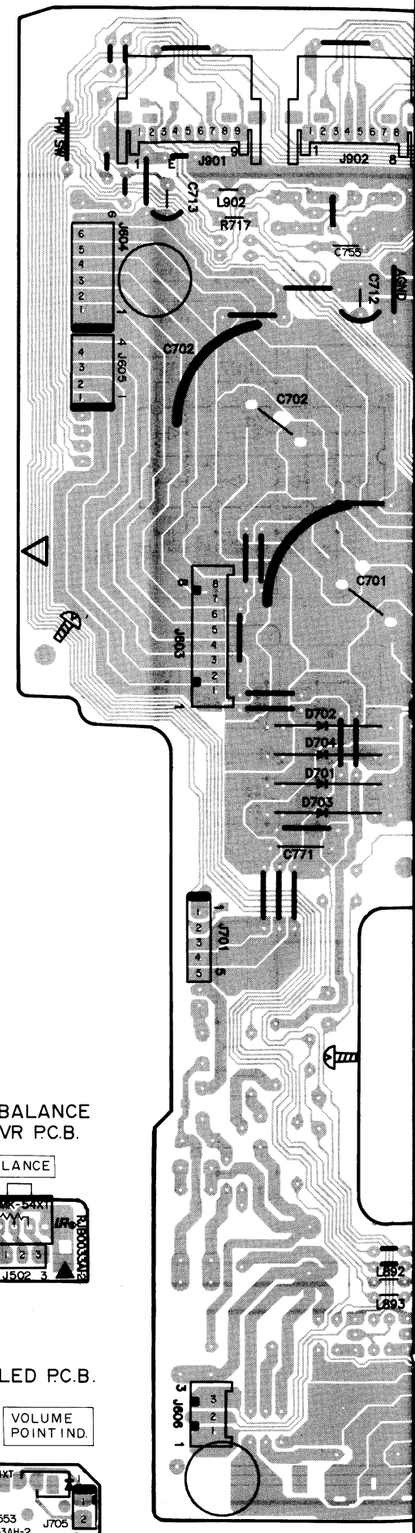
D VOLUME / MOTOR DRIVE P.C.B.



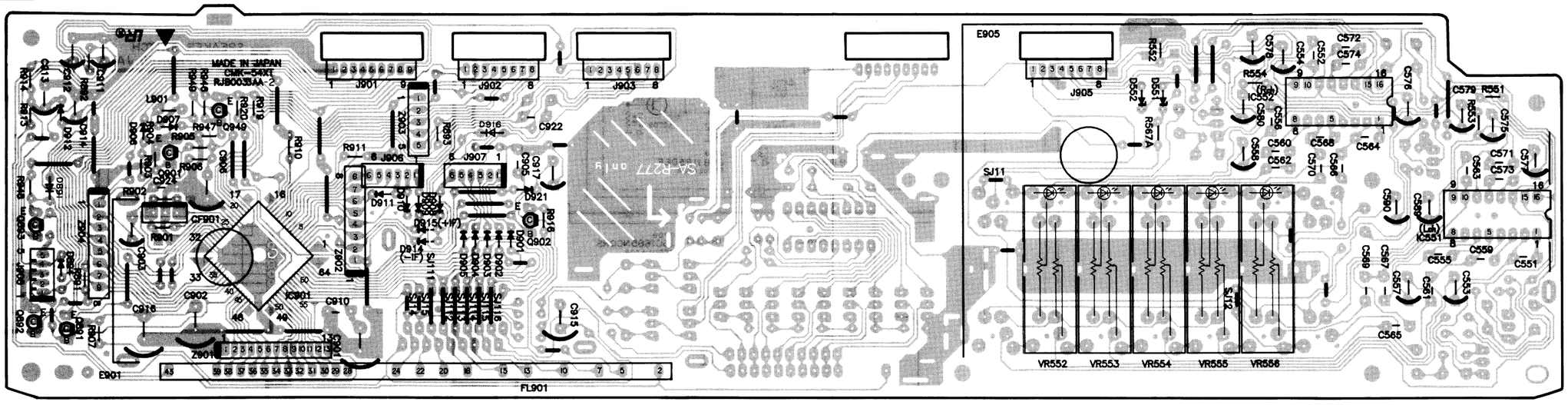
A TUNER(FM/AM) P.C.B.



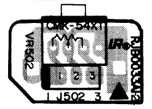
B MAIN P.C.B.



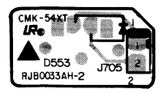
E FL METER DRIVE / GRAPHIC EQUALIZER AMP P.C.B.



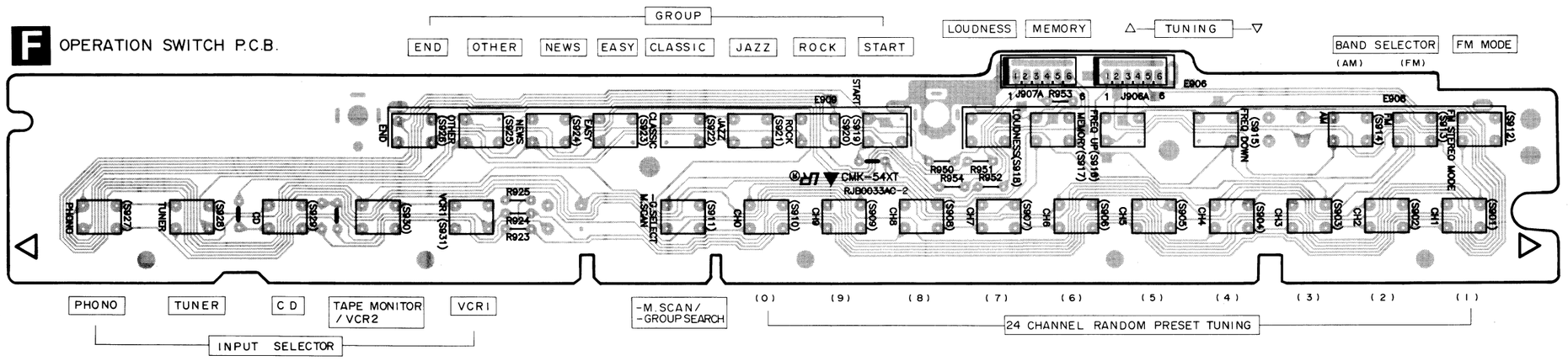
C BALANCE VR P.C.B.



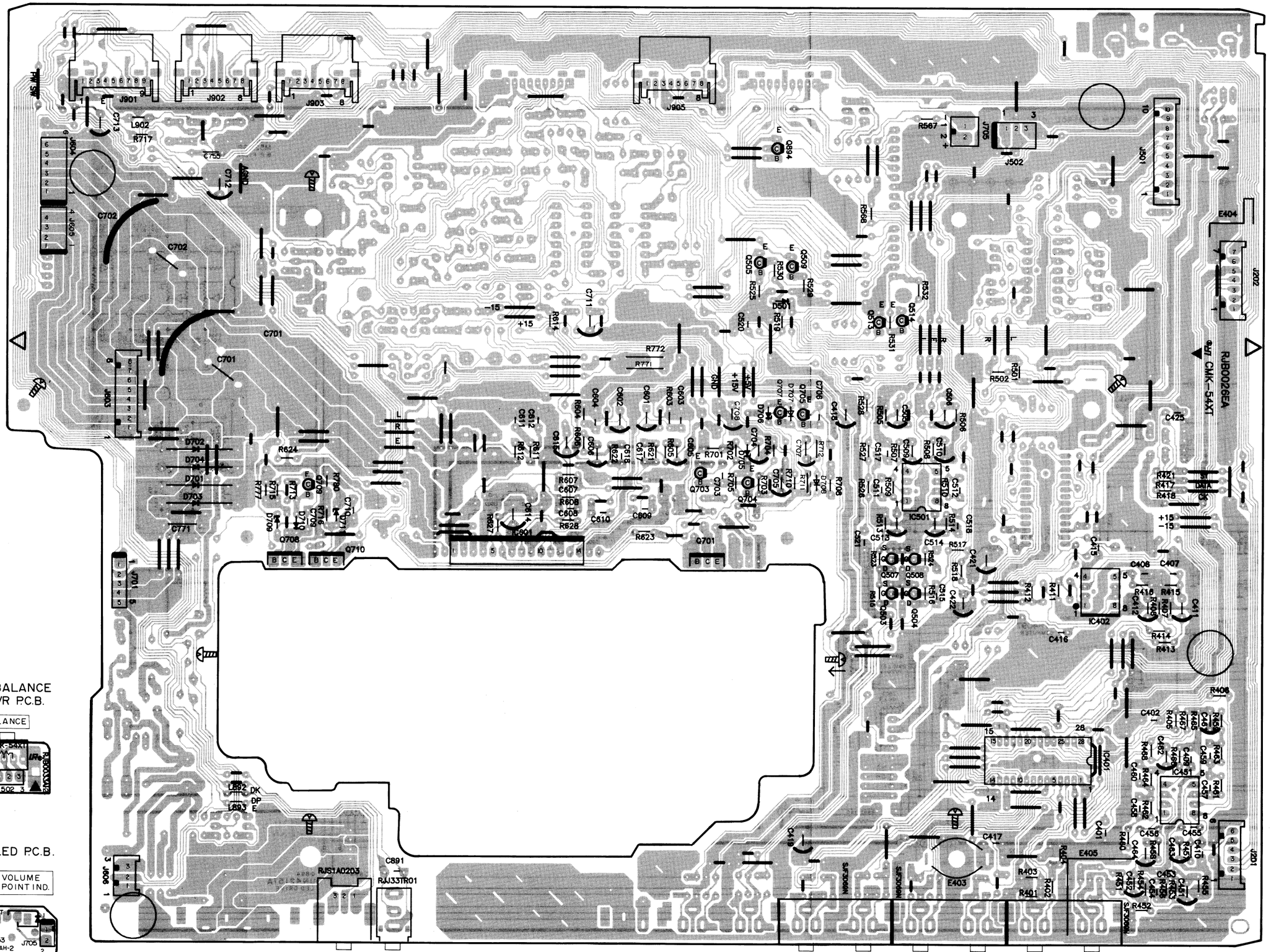
H LED P.C.B.



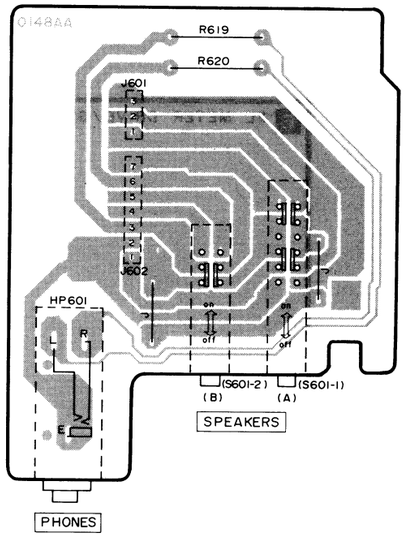
F OPERATION SWITCH P.C.B.



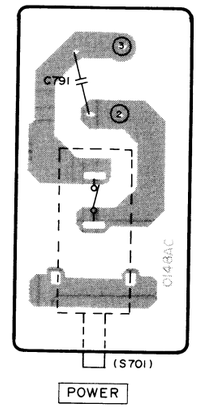
B MAIN P.C.B.



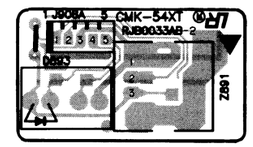
J SPEAKER SWITCH / HEADPHONES JACK P.C.B.



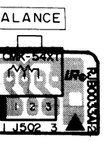
L POWER SWITCH P.C.B.



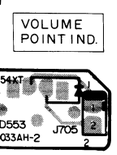
G LED/ REMOTE SENSOR P.C.B.



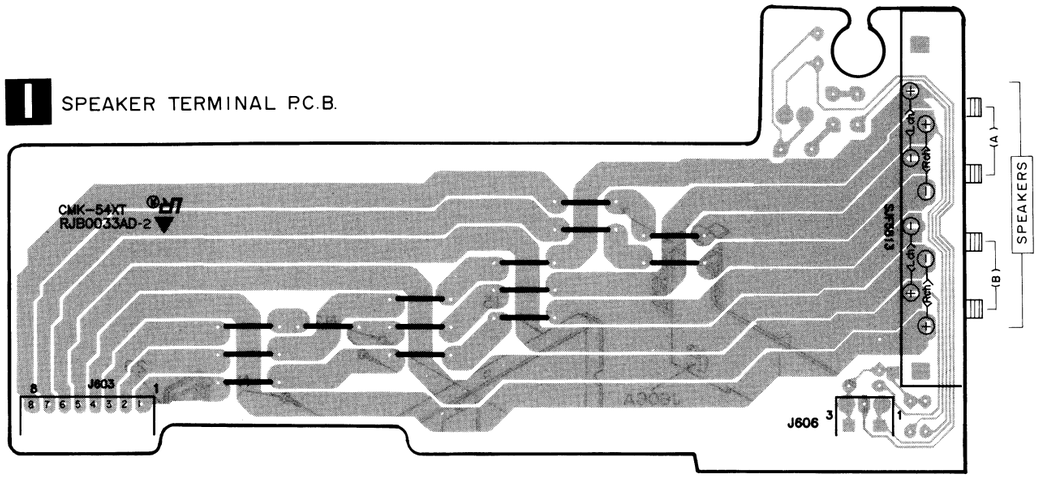
BALANCE VR P.C.B.

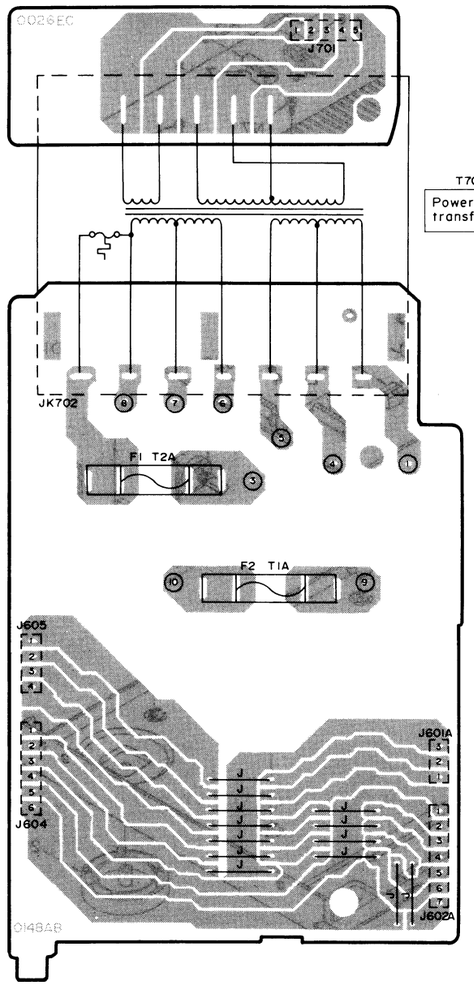


LED P.C.B.



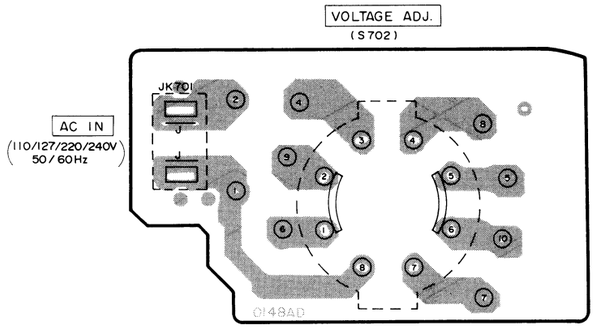
I SPEAKER TERMINAL P.C.B.



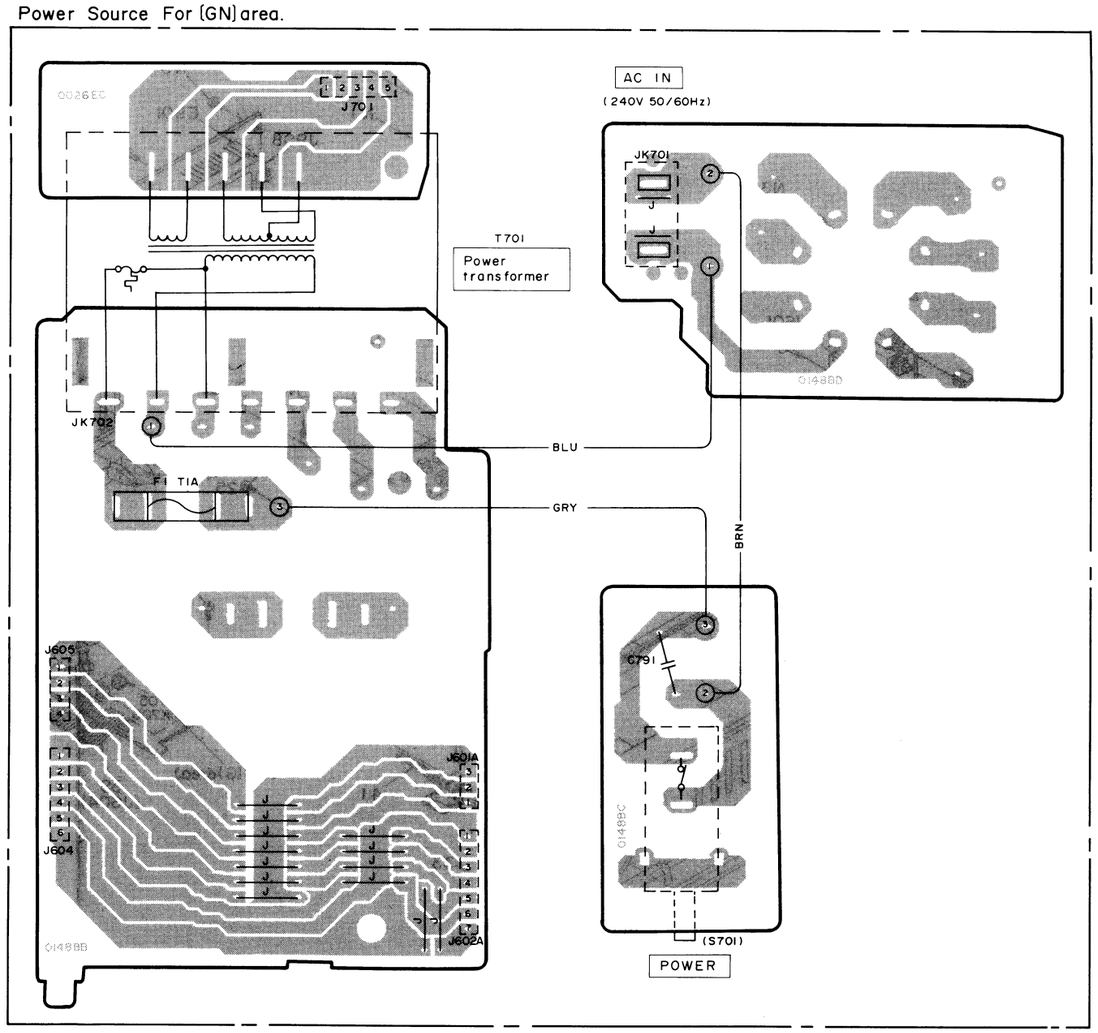


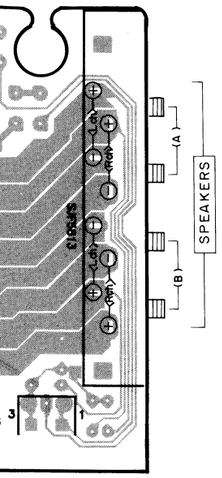
K CONNECTION P.C.B.

M VOLTAGE ADJ. P.C.B.

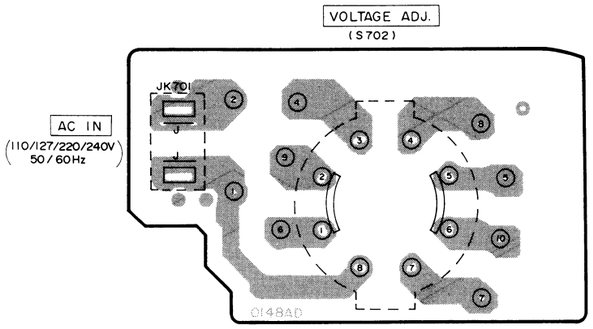


Power Source For (GN) area.

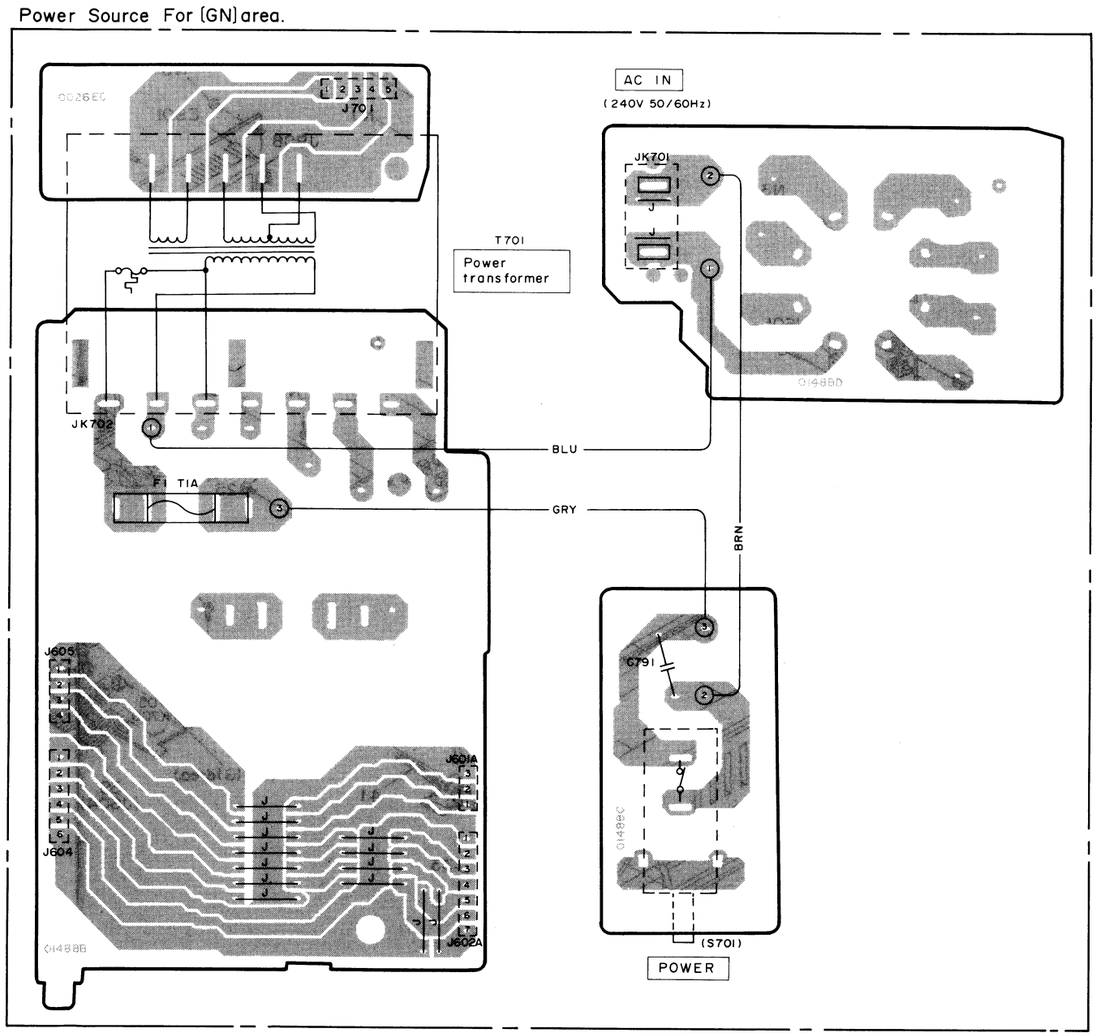




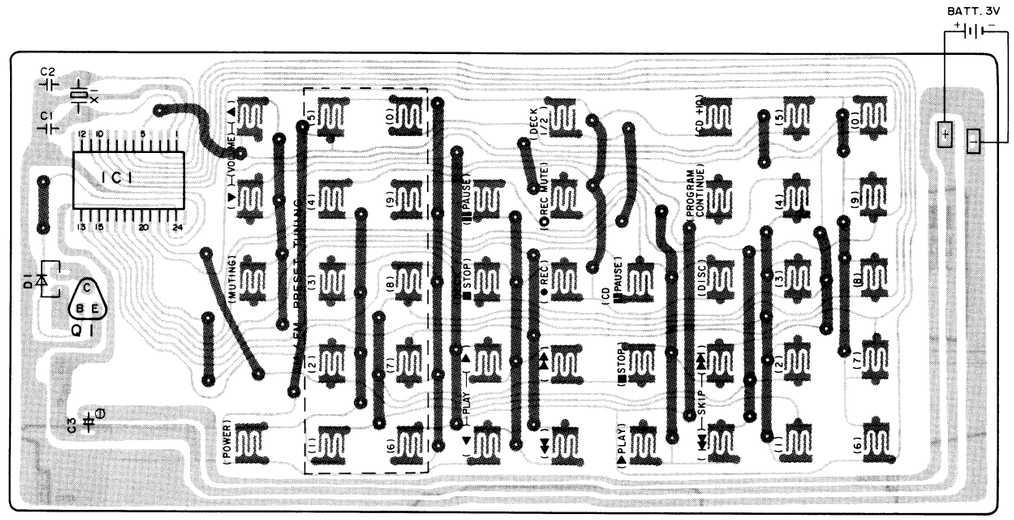
M VOLTAGE ADJ. P.C.B.



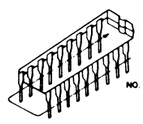
Power Source For (GN) area.



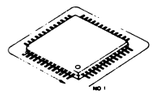
• Remote-control transmitter (EUR64747)



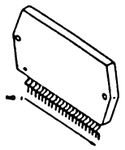
• Terminal guide of IC's, transistors and diodes



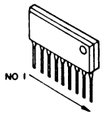
LC6554H4097 (64 PIN)



SVI3102B (14 PIN)

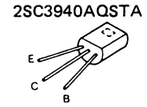


BA6218 (9 PIN)

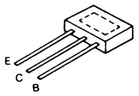


M5218P	8 PIN	M5226P	16 PIN
AN6558F	8 PIN	AN7273A	18 PIN
LM7001	8 PIN	TC9163N	28 PIN
AN7470	16 PIN		

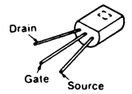
2SC1685NCQRS
2SA933SQRSTA
2SC1740SQSTA
2SC3940AQSTA



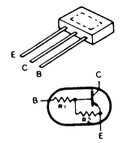
2SC2785FETA
2SC2787LTA
2SD1450QRSTA



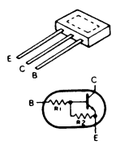
2SJ40CDTA
2SK381CDTA



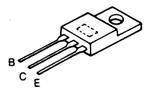
UN4113TA



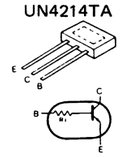
UN4211TA



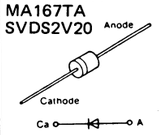
2SB1185DEF
2SD1762DEF

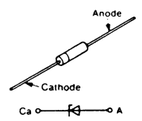


UN4215TA
UN4214TA



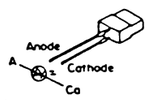
MA165TA
MA29WATA
MA167TA
SVDS2V20



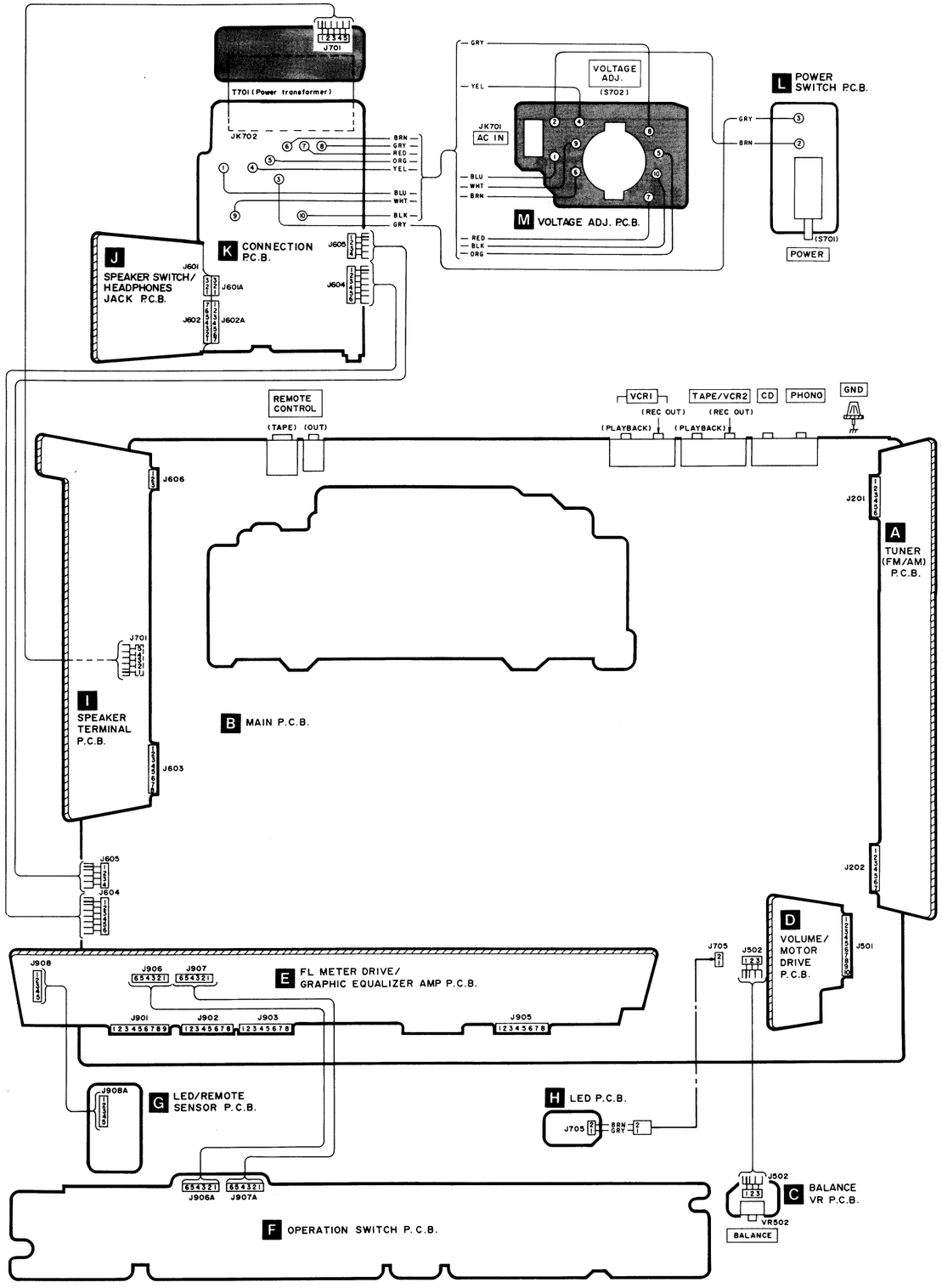


MA4056MTA
MA4062MTA
MA4150MTA
MA4300MTA
MA4030MTA
MA4110MTA

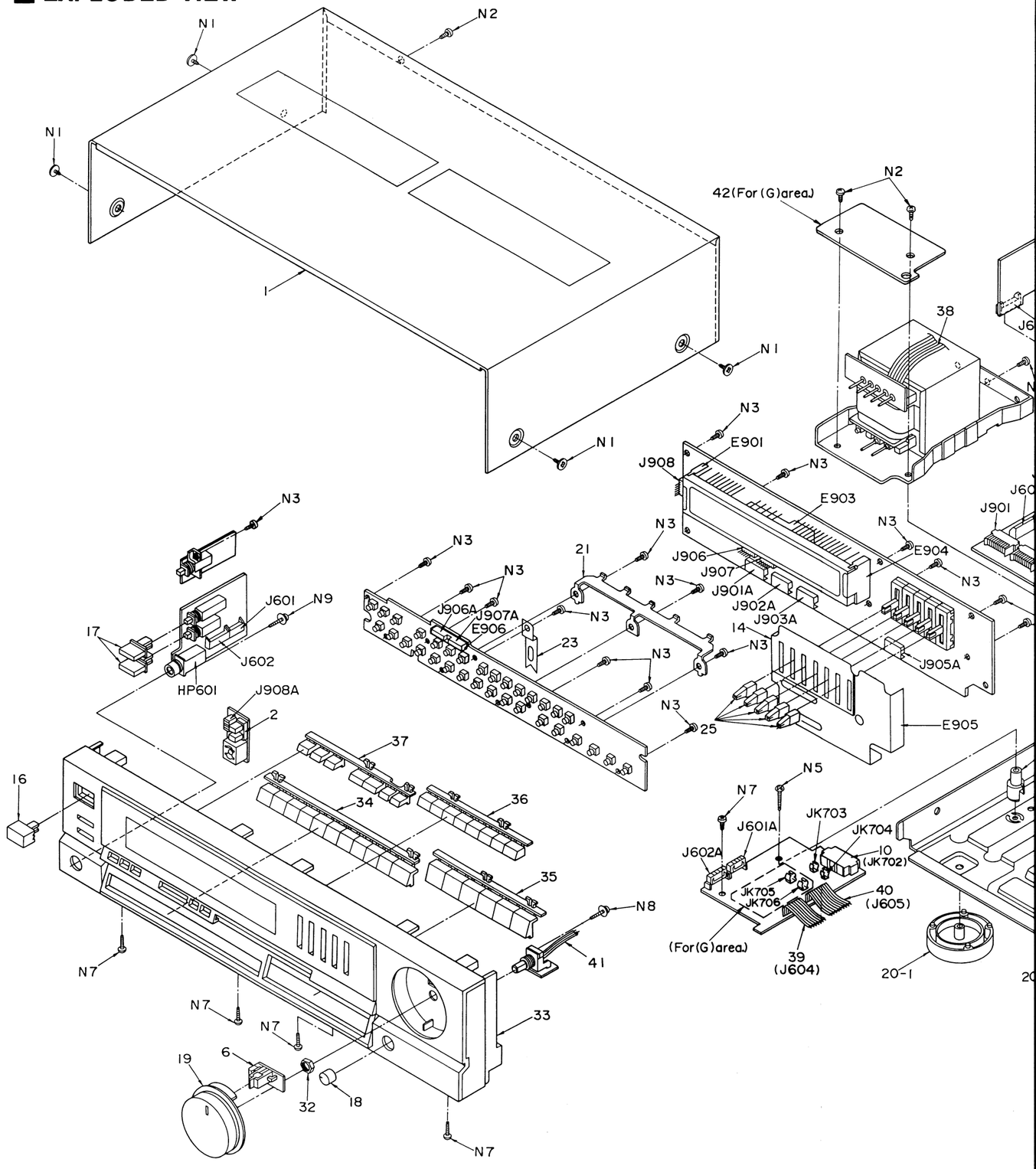
LN846RP–LS



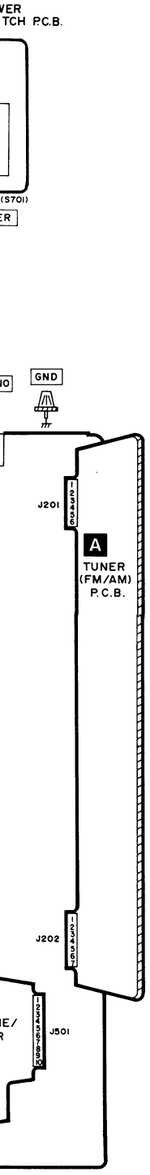
■ WIRING CONNECTION DIAGRAM



■ EXPLODED VIEW



■ EXPLODED VIEW



■ REPLACEMENT PARTS LIST

Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.
* Remote Control Ass'y:
Supply period for three years from termination of production.

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RKM0026A-K	CABINET BODY	
2	RMR0116	SPACER	
3	SJF5813	TERMINAL (SP)	
4	SJF8402N	TERMINAL (ANT)	
5	SJS5215	CONNECTOR	
6	SJS5217	CONNECTOR	
7	RJJ33TR01	JACK	
8	RJS1A0203-0	CONNECTOR	
9	SJF3069N	TERMINAL LINE OUT/IN	
10	SJS305-1	SOCKET(JK702)	(GN)
10	SJS702-1	SOCKET(JK702)	(G)
12	SJS9231-1B	AC INLET(JK701)	(G) ⚠
12	SJS9234B	AC INLET(JK701)	(GN) ⚠
13	VJF0756	FUSES HOLDER(JK703-706)	
14	RGK0095	ORNAMENT	
15	RGR0016D-A	REAR PANEL	(G)
15	RGR0016E-A	REAR PANEL	(GN)
16	RGU0030	BUTTON, POWER	
17	RGU0101	BUTTON, SPEAKER	
18	RGW0020	BUTTON, BALANCE	
19	RGW0021	KNOB, VOLUME	
20	RFKJAR477P-K	CHASSIS ASS'Y	
20-1	RKA0009-1	FOOT	
21	RMA0067	BRACKET	
22	RMA0068	BRACKET	
23	RMC0018	SPRING	
25	SBDK22-1	KNOB	
26	SHE185-2	BRACKET	
27	SHE187-2	BRACKET	
29	SJS9231A	AC INLET COVER	(G)
29	SJS9234A	AC INLET COVER	(GN)
30	SNE2123	GND TERMINAL	
31	SUS894-1	SPRING	
32	XNS7	NUT	
33	RFKGAR177G-K	FRONT PANEL ASS'Y	
34	RGU0097A	BUTTON, PRESET	
35	RGU0098B	BUTTON, INPUT	
36	RGU0099B	BUTTON, GROUP	
37	RGU0100C	BUTTON, MODE	
38	RWJ1805160KK	FLAT CABLE	
39	RWJ1806070QK	FLAT CABLE (J604)	
40	RWJ1804070QK	FLAT CABLE (J605)	
41	RWJ1803080QK	FLAT CABLE	
42	RMZ0043	INSULATOR	(G)
		SCREWS	
N1	RHD30003	SCREW	
N2	XTBS3+8JFZ1	SCREW	
N3	XTBS26+8J	SCREW	
N4	XTB3+16JFZ	SCREW	
N5	XTB3+20JFZ	SCREW	(GN)
N5	XYN3+C8FZ	SCREW	(G)
N7	XTB3+8JFZ	SCREW	
N8	XTWS3+8T	SCREW	
N9	XTW3+8T	SCREW	
		ACCESSORIES	
A1	RQT0109G	INSTRUCTION MANUAL	
A2	RJA0004	AC. CORD	(G) ⚠
A2	SJA173	AC. CORD	(GN) ⚠
A3	SPB1162T	AM ANTENNA	
A4	SSA269M	FM ANTENNA	
A5	SJP2257T	CONNECTION CABLE	
A6	SJP9215	AC PLUG ADAPTOR	(G)
A7	SWKST11M-1	FLAT CABLE	
		PACKING MATERIAL	
P1	RPG0134	CARTON BOX	
P2	RPN0120A	PAD, FRONT	
P3	RPN0120B	PAD, REAR	
P4	SPSD152	PAD	
P5	SPP719	PROTECTION BAG	

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS	
IC101	LM7001	IC, PLL FREQ. SYNTHESIZER	
IC201	AN7273A	IC, FM/AM IF AMP&MIXER	
IC301	AN7470	IC, FM MPX	
IC401	TC9163N	IC, INPUT SELECTOR	
IC402	M5218P	IC, BUFFER AMP	
IC451	AN6558F	IC, PHONO EQ. AMP	
IC501	AN6558F	IC, BUFFER AMP	
IC551	M5226P	IC, B. P. F.	
IC552	M5226P	IC, B. P. F.	
IC601	SVI3102B	IC, POWER AMP	⚠
IC851	BA6218	IC, MOTOR DRIVE	
IC901	LC6554H4097	IC, MICRO COMPUTER	
		TRANSISTORS	
Q101, 102	2SC2785FETA	TRANSISTOR	
Q201, 202	2SC2787LTA	TRANSISTOR	
Q204, 205	2SC1740SQSTA	TRANSISTOR	
Q206	2SA933SQRSTA	TRANSISTOR	
Q207	2SC1740SQSTA	TRANSISTOR	
Q208, 209	2SA933SQRSTA	TRANSISTOR	
Q210	2SC1740SQSTA	TRANSISTOR	
Q301, 302	2SD1450QRSTA	TRANSISTOR	
Q303	2SA933SQRSTA	TRANSISTOR	
Q501, 502	2SJ40CDTA	TRANSISTOR	
Q503, 504	2SK381CDTA	TRANSISTOR	
Q505	2SA933SQRSTA	TRANSISTOR	
Q507, 508	2SK381CDTA	TRANSISTOR	
Q509	2SA933SQRSTA	TRANSISTOR	
Q513, 514	UN4211TA	TRANSISTOR	
Q701	2SD1762DEF	TRANSISTOR	⚠
Q703, 704	2SC1685NCQRS	TRANSISTOR	⚠
Q705	2SC3940AQSTA	TRANSISTOR	
Q707	2SC1740SQSTA	TRANSISTOR	
Q708	2SB1185DEF	TRANSISTOR	⚠
Q709	2SC1685NCQRS	TRANSISTOR	⚠
Q710	2SB1185DEF	TRANSISTOR	
Q891	UN4113TA	TRANSISTOR	
Q892	UN4214TA	TRANSISTOR	
Q893	2SA933SQRSTA	TRANSISTOR	
Q894	UN4215TA	TRANSISTOR	
Q901	2SC1740SQSTA	TRANSISTOR	
Q902	UN4215TA	TRANSISTOR	
Q949	2SA933SQRSTA	TRANSISTOR	
		DIODES	
D101	MA165TA	DIODE	
D202	MA4110MTA	DIODE	
D204	MA165TA	DIODE	
D206	MA165TA	DIODE	

Ref. No.	Part No.	Part Name & Description	Remarks
D301	MA165TA	DIODE	
D501	MA165TA	DIODE	
D551, 552	MA4030MTA	DIODE	
D553	LN846RP-LS	DIODE	
D701-704	SVDS2V20	DIODE	⚠
D705, 706	MA4062MTA	DIODE	
D707	MA165TA	DIODE	
D708	MA167TA	DIODE	
D709	MA4300MTA	DIODE	
D710	MA29WATA	DIODE	⚠
D711	MA4150MTA	DIODE	
D891	MA165TA	DIODE	
D893	LN846RP-LS	DIODE	
D894	MA165TA	DIODE	
D901-911	MA165TA	DIODE	
D912	MA4056MTA	DIODE	
D914	MA165TA	DIODE	(BLUE)
D915	MA165TA	DIODE	(ORANGE)
D916	MA165TA	DIODE	
D921	MA165TA	DIODE	
		VARIABLE RESISTORS	
VR301	EVNDXAA00B53	V. R, MPX VCO ADJ	
VR501	EUWMN0F20B15	V. R, VOLUME	
VR502	EVJ01CF01G15	V. R, BALANCE	
VR552	EVBJJAJ15G15	V. R, G. E. 80HZ	
VR553	EVBJJAJ15G15	V. R, G. E. 250HZ	
VR554	EVBJJAJ15G15	V. R, G. E. 1KHZ	
VR555	EVBJJAJ15G15	V. R, G. E. 4KHZ	
VR556	EVBJJAJ15G15	V. R, G. E. 12. 5KHZ	
		COMPONENT COMBINATIONS	
Z201	RLA2Z001-T	COMPONENT COMBINATION	
Z202	SLI7Z101-T	COMPONENT COMBINATION	
Z891	A1QH3029H0	COMPONENT COMBINATION	
Z901	EXFP12331MF	COMPONENT COMBINATION	
Z902	EXBF8E473J	COMPONENT COMBINATION	
Z903	EXBF5E103J	COMPONENT COMBINATION	
Z904	EXBF8E103J	COMPONENT COMBINATION	
		COILS	
L101	RLQZPR47KT-Y	COIL	
L102	RLQZP1R2KT-Y	COIL	
L203, 204	ELEPK1R0MA	COIL	
L851, 852	RLQZP1R0KT-Y	COIL	
L892, 893	RLQZP101KT-Y	COIL	
L901	RLQZP101KT-Y	COIL	
L902	ELEPK101KA	COIL	

Ref. No.	Part No.	Part Name & Description	Remarks
		TRANSFORMERS	
T201	SLI4B511-Z	IFT	
T202	SLI4B513-Z	IFT	
T701	RTP1N5E003-V	POWER TRANSFORMER	(G) ⚠
T701	RTP1N5B003-V	POWER TRANSFORMER	(GN) ⚠
		FILTERS	
CF201, 202	RLFETNGM02LA	C. F. (RED 10.700MHZ)	
CF201, 202	RLFETNGM02LB	C. F. (BLUE 10.675MHZ)	
CF201, 202	RLFETNGM02LC	C. F. (ORANGE 10.725MHZ)	
CF901	EF0FC4004A4	CERAMIC FILTER	
		OSCILLATOR	
X101	SVQ49U722T-S	OSCILLATOR	
		DISPLAY TUBE	
FL901	SAD8MT38GK	DISPLAY TUBE	
		FUSES	
F1	XBA2C10TB0	FUSE	(GN) ⚠
F1	XBA2C20TB0	FUSE	(G) ⚠
F2	XBA2C10TB0	FUSE	(G) ⚠
		JACK	
HP601	SJJ146B	HEADPHONES	
		FRONT END PACK ASS'Y	
TN101	RAL0006	FM FRONT END PACK	
		SWITCHES	
S601	SSH2137	SW, SPEAKER SELECTOR	
S701	ESB8249V	SW, POWER	⚠
S702	ESE37263	SW, VOLTAGE SELECTOR	(G) ⚠
S901	EVQQB005R	SW, PRESET TUNING 1	
S902	EVQQB005R	SW, PRESET TUNING 2	
S903	EVQQB005R	SW, PRESET TUNING 3	
S904	EVQQB005R	SW, PRESET TUNING 4	
S905	EVQQB005R	SW, PRESET TUNING 5	
S906	EVQQB005R	SW, PRESET TUNING 6	
S907	EVQQB005R	SW, PRESET TUNING 7	
S908	EVQQB005R	SW, PRESET TUNING 8	
S909	EVQQB005R	SW, PRESET TUNING 9	
S910	EVQQB005R	SW, PRESET TUNING 0	
S911	EVQQB005R	SW, MUSIC SCAN/GROUP SEARCH	
S912	EVQQB005R	SW, FM MODE	

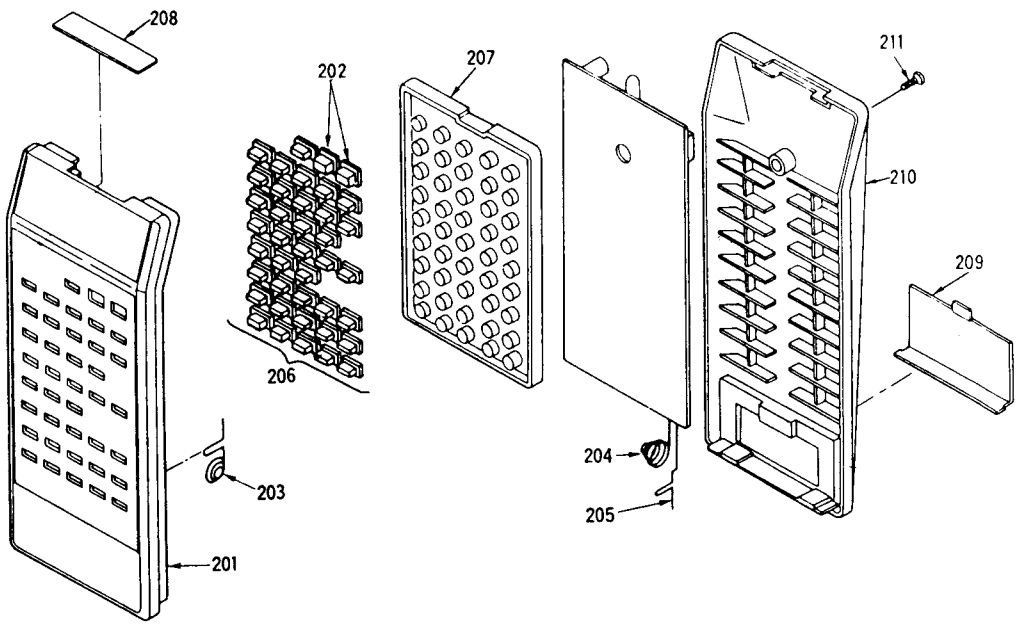
Ref. No.	Part No.	Part Name & Description	Remarks
S913	EVQQB005R	SW, FM	
S914	EVQQB005R	SW, AM	
S915	EVQQB005R	SW, TUNING DOWN	
S916	EVQQB005R	SW, TUNING UP	
S917	EVQQB005R	SW, MEMORY	
S918	EVQQB005R	SW, LOUDNESS	
S919	EVQQB005R	SW, START	
S920	EVQQB005R	SW, ROCK	
S921	EVQQB005R	SW, JAZZ	
S922	EVQQB005R	SW, CLASSIC	
S923	EVQQB005R	SW, EASY	
S924	EVQQB005R	SW, NEWS	
S925	EVQQB005R	SW, OTHER	
S926	EVQQB005R	SW, END	
S927	EVQQB005R	SW, PHONO	
S928	EVQQB005R	SW, TUNER	
S929	EVQQB005R	SW, CD	
S930	EVQQB005R	SW, TAPE MONITOR/VCR2	
S931	EVQQB005R	SW, VCR 1	
		CONNECTOR AND SOCKET	
J201	SJS50678JQ	SOCKET(6P)	
J201A	SJT30645JQ	CONNECTOR(6P)	
J202	SJS50778JQ	SOCKET(7P)	
J202A	SJT30745JQ	CONNECTOR(7P)	
J501	SJS51078JQ	SOCKET(10P)	
J501A	SJT31045JQ	CONNECTOR(10P)	
J502	SJT30343-V	CONNECTOR(3P)	
J601	SJT30345JQ	CONNECTOR(3P)	
J601A	SJS50378JQ	SOCKET(3P)	
J602	SJT30745JQ	CONNECTOR(7P)	
J602A	SJS50778JQ	SOCKET(7P)	
J603	SJS50878JQ	SOCKET(8P)	
J603A	SJT30845JQ	CONNECTOR(8P)	
J604	SJT30643-V	CONNECTOR(6P)	
J605	SJT30443-V	CONNECTOR(4P)	
J606	SJS50378JQ	SOCKET(3P)	
J606A	SJT30345JQ	CONNECTOR(3P)	
J705	SJT3213	CONNECTOR(2P)	
J901A	RJT003K009M	CONNECTOR(9P)	
J901	RJU003K009M	SOCKET(9P)	
J902A	RJT003K008M	CONNECTOR(8P)	
J902	RJU003K008M	SOCKET(8P)	
J903A	RJT003K008M	CONNECTOR(8P)	
J903	RJU003K008M	SOCKET(8P)	
J905A	RJT003K008M	CONNECTOR(8P)	
J905	RJU003K008M	SOCKET(8P)	
J906, 907	SJT30648BB	CONNECTOR(6P)	
J908	SJT30549BB	CONNECTOR(5P)	
J906A	SJS50681BB	SOCKET(6P)	
J907A	SJS50681BB	SOCKET(6P)	
J908A	SJS50581BB	SOCKET(5P)	

Ref. No.	Part No.	Part Name & Description	Remarks
		SHIELD PLATES	
E403	SNE1004	P. C. B. HOLDER	
E404	SME103-6	P. C. B. HOLDER	
E405	SMC6379	PHONO SHIELD PLATE	
E901	RMA0080	FL HOLDER	
E903	SUW3123-1	FL HOLDER	
E904	RMA0080	FL HOLDER	
E905	RSC0035	G. E. SHIELD PLATE	
E906	SMC6466	LED SHIELD PLATE	
		REMOTE CONTROL UNIT	
RC1	EUR64747	REMOTE CONTROL ASS'Y	
		** REMOTE CONTROL PARTS **	
IC1	M50467018FP	INTEGRATED CIRCUIT	

Ref. No.	Part No.	Part Name & Description	Remarks
Q1	2SC3265Y	TRANSISTOR	
D1	SE303A	L. E. D	
X1	CSB420PB6	OSCILATOR	
R1	ERDS2TJ1R0	C. RESISTOR 1/4W 1	
C1, 2	ECUV1H471KCG	C. CAPACITOR 50V 470P	
C3	ECEA0GK101	E. CAPACITOR 4V 100U	
201	UR64VCS906	UPPER CABINET	
202	SBCUV98RM8K1	BUTTON	
203	UR64TD374	BATTERY TERMINAL (+·-)	
204	UR64TD373	BATTERY TERMINAL (-)	
205	UR64TD372	BATTERY TERMINAL(+)	
206	SBCUV98RM8K2	BUTTON	
207	UR64CT369	RUBBER	
208	UR52SB327	PLATE	
209	UR64EC366	BATTERY COVER	
210	UR64CS365	LOWER CABINET	
211	XTS26+10GFZ	SCREW	

■ EXPLODED VIEW

- **Remote-control transmitter**



■ RESISTORS & CAPACITORS

Notes : * Capacity valuse are in microfarads (uF) unless specified otherwise, P=Pico-farads(pF) F=Farads(F)
* Resistance values are in ohms, unless specified otherwise, 1K=1,000(OHM) , 1M=1,000k(OHM)

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R101, 102	ERDS2TJ103T	1/4W 10K
R104	ERDS2TJ102T	1/4W 1K
R105	ERDS2TJ561T	1/4W 560
R106	ERDS2TJ562T	1/4W 5.6K
R107	ERDS2TJ103T	1/4W 10K
R108	ERDS2TJ151T	1/4W 150
R201	ERDS2TJ332T	1/4W 3.3K
R202	ERDS2TJ824T	1/4W 820K
R203	ERDS2TJ122T	1/4W 1.2K
R204	ERDS2TJ824T	1/4W 820K
R205	ERDS2TJ391T	1/4W 390
R207	ERDS2TJ822T	1/4W 8.2K
R208	ERDS2TJ102T	1/4W 1K
R209	ERDS2TJ471T	1/4W 470
R210	ERDS2TJ332T	1/4W 3.3K
R211	ERDS2TJ222T	1/4W 2.2K
R212	ERDS2TJ153T	1/4W 15K
R213	ERDS2TJ104T	1/4W 100K
R214	ERDS2TJ824T	1/4W 820K
R215	ERDS2TJ822T	1/4W 8.2K
R216	ERDS2TJ563T	1/4W 56K
R217	ERDS2TJ223T	1/4W 22K
R218	ERDS2TJ123T	1/4W 12K
R219	ERDS2TJ562T	1/4W 5.6K
R220	ERDS2TJ103T	1/4W 10K
R221	ERDS2TJ104T	1/4W 100K
R222	ERDS2TJ473T	1/4W 47K
R223	ERDS2TJ154T	1/4W 150K
R224	ERDS2TJ101T	1/4W 100
R227	ERDS2TJ104T	1/4W 100K
R228	ERDS2TJ123T	1/4W 12K
R229	ERDS2TJ102T	1/4W 1K
R230	ERDS2TJ104T	1/4W 100K
R231	ERDS2TJ471T	1/4W 470
R232	ERDS2TJ122T	1/4W 1.2K
R233	ERDS2TJ684T	1/4W 680K
R234	ERDS2TJ103T	1/4W 10K
R235	ERDS2TJ471T	1/4W 470
R237	ERDS2TJ221T	1/4W 220
R247	ERDS2TJ103T	1/4W 10K
R301	ERDS2TJ473T	1/4W 47K
R302	ERDS2TJ151T	1/4W 150
R303, 304	ERDS2TJ223T	1/4W 22K
R305, 306	ERDS2TJ332T	1/4W 3.3K
R307, 308	ERDS2TJ104T	1/4W 100K
R309	ERDS2TJ274T	1/4W 270K

Ref. No.	Part No.	Values & Remarks
R311	ERDS2TJ102T	1/4W 1K
R312	ERDS2TJ153T	1/4W 15K
R313, 314	ERDS2TJ473T	1/4W 47K
R315, 316	ERDS2TJ103T	1/4W 10K
R317	ERDS2TJ473T	1/4W 47K
R401, 402	ERDS2TJ332T	1/4W 3.3K
R403, 404	ERDS2TJ822T	1/4W 8.2K
R405, 406	ERDS2TJ470T	1/4W 47
R407, 408	ERDS2TJ104T	1/4W 100K
R411, 412	ERDS2TJ104T	1/4W 100K
R413, 414	ERDS2TJ102T	1/4W 1K
R415, 416	ERDS2TJ473T	1/4W 47K
R417, 418	ERDS2TJ104T	1/4W 100K
R421	ERDS2TJ332T	1/4W 3.3K
R451, 452	ERDS2TJ391T	1/4W 390
R453, 454	ERDS2TJ224T	1/4W 220K
R455, 456	ERDS2TJ563T	1/4W 56K
R457, 458	ERDS2TJ271T	1/4W 270
R459, 460	ERDS2TJ680T	1/4W 68
R461, 462	ERDS2TJ184T	1/4W 180K
R463, 464	ERDS2TJ123T	1/4W 12K
R465, 466	ERDS2TJ563T	1/4W 56K
R467, 468	ERDS2TJ102T	1/4W 1K
R501, 502	ERDS2TJ222T	1/4W 2.2K
R503, 504	ERDS2TJ103T	1/4W 10K
R505, 506	ERDS2TJ104T	1/4W 100K
R507, 508	ERDS2TJ562T	1/4W 5.6K
R509, 510	ERDS2TJ563T	1/4W 56K
R513, 514	ERDS2TJ393T	1/4W 39K
R515, 516	ERDS2TJ222T	1/4W 2.2K
R517, 518	ERDS2TJ563T	1/4W 56K
R519	ERDS2TJ682T	1/4W 6.8K
R522	ERDS2TJ153T	1/4W 15K
R523, 524	ERDS2TJ222T	1/4W 2.2K
R525	ERDS2TJ473T	1/4W 47K
R526	ERDS2TJ563T	1/4W 56K
R527	ERDS2TJ683T	1/4W 68K
R528	ERDS2TJ822T	1/4W 8.2K
R529	ERDS2TJ104T	1/4W 100K
R530	ERDS2TJ392T	1/4W 3.9K
R531, 532	ERDS2TJ153T	1/4W 15K
R551, 552	ERDS2TJ103T	1/4W 10K
R553, 554	ERDS2TJ472T	1/4W 4.7K
R567A	ERDS2TJ331T	1/4W 330
R567, 568	ERDS2TJ331T	1/4W 330
R603, 604	ERDS2TJ563T	1/4W 56K
R605, 606	ERDS2TJ182T	1/4W 1.8K
R607, 608	ERDS2TJ563T	1/4W 56K
R611, 612	ERD25FVJ100T	1/4W 10 ⚠

Ref. No.	Part No.	Values & Remarks
R614	ERD25FVJ470T	1/4W 47 ⚠
R619, 620	ERG1ANJP331S	1W 330 ⚠
R621, 622	ERDS2TJ222T	1/4W 2.2K
R623	ERDS2TJ684T	1/4W 680K
R624	ERDS2TJ223T	1/4W 22K ⚠
R627	ERDS2TJ154T	1/4W 150K
R628	ERDS2TJ684T	1/4W 680K
R701	ERDS1FVJ332T	1/2W 3.3K ⚠
R702	ERDS2TJ122T	1/4W 1.2K
R703	ERDS2TJ272T	1/4W 2.7K
R704	ERDS2TJ222T	1/4W 2.2K
R705	ERDS2TJ272T	1/4W 2.7K
R708	ERDS1FVJ330T	1/2W 33 ⚠
R710	ERDS2TJ272T	1/4W 2.7K
R711	ERDS2TJ104T	1/4W 100K
R712	ERDS2TJ223T	1/4W 22K
R713	ERDS2TJ183T	1/4W 18K ⚠
R715	ERDS2TJ101T	1/4W 100 ⚠
R716	ERDS2TJ222T	1/4W 2.2K ⚠
R717	ERD25FVJ150T	1/4W 15 ⚠
R771, 772	ERD2FCG150P	1/4W 15 ⚠
R777	ERD25FVJ8R2T	1/4W 8.2 ⚠
R780	ERDS1FVJ220T	1/2W 22 ⚠
R851	ERDS1FVJ2R2T	1/2W 2.2 ⚠
R891	ERDS2TJ182T	1/4W 1.8K
R892	ERDS2TJ181T	1/4W 180
R893	ERDS2TJ103T	1/4W 10K
R901	ERDS2TJ222T	1/4W 2.2K
R902	ERDS2TJ105T	1/4W 1M
R903	ERDS2TJ563T	1/4W 56K
R904	ERDS2TJ123T	1/4W 12K
R905	ERDS2TJ103T	1/4W 10K
R906	ERDS2TJ334T	1/4W 330K
R907	ERDS2TJ681T	1/4W 680
R910	ERDS2TJ122T	1/4W 1.2K
R911	ERDS2TJ103T	1/4W 10K
R913, 914	ERDS2TJ101T	1/4W 100
R916	ERDS2TJ104T	1/4W 100K
R919, 920	ERDS2TJ122T	1/4W 1.2K
R923-925	ERDS2TJ331T	1/4W 330
R946	ERDS2TJ222T	1/4W 2.2K
R947	ERDS2TJ103T	1/4W 10K
R948	ERDS2TJ221T	1/4W 220
R949	ERDS2TJ472T	1/4W 4.7K
R950-954	ERDS2TJ562T	1/4W 5.6K
		CAPACITORS
C101, 102	ECBT1H150JC5	50V 15P

Ref. No.	Part No.	Values & Remarks
C103	ECBT1H102KB5	50V 0.001U
C104	ECBT1H181KB5	50V 180P
C105	ECEA0JU221B	6.3V 220U
C106	ECKT1H103ZF	50V 0.01U
C107	ECKT1H223ZF	50V 0.022U
C108	ECEA25M4R7RB	25V 4.7U
C109	ECEA1CU330B	16V 33U
C110, 111	ECBT1H102KB5	50V 0.001U
C201, 202	ECKT1H103ZF	50V 0.01U
C204	ECBT1H470J5	50V 47P
C205	ECKT1H223ZF	50V 0.022
C206	ECBT1H150JC5	50V 15P
C208	ECEA0JU101B	6.3V 100U
C209	ECEA1EK100B	25V 10U
C210-212	ECKT1H223ZF	50V 0.022U
C213	ECBT1H101KB5	50V 100P
C214	ECEA1CK100B	16V 10U
C215	ECKT1H103ZF	50V 0.01U
C216	ECEA1CK100B	16V 10U
C217	ECEA1HK010B	50V 1U
C220	ECEA1CK100B	16V 10U
C221	ECFTD183KXL	25V 0.018U
C222	ECQM1H473KV3	50V 0.047U
C225	ECBT1H180J	50V 18P
C226	ECKT1H103ZF	50V 0.01U
C227	ECEA1CK100B	16V 10U
C228	ECBT1H100J	50V 10P
C301	ECEA1CU101B	16V 100U
C302	ECEA1HKR47B	50V 0.47U
C303	ECEA1HK010B	50V 1U
C304-306	ECEA1HK3R3B	50V 3.3U
C307, 308	ECFTD153KXL	25V 0.015U
C309	ECKT1H223ZF	50V 0.022U
C310	ECFTD473KXL	25V 0.047U
C311	ECQP1471JZ3	100V 470P
C312	ECEA1VK4R7B	35V 4.7U
C313, 314	ECBT1H181KB5	50V 180P
C401, 402	ECKT1H103ZF	50V 0.01U
C407, 408	ECBT1H101KB5	50V 100P
C409, 410	ECKT1H103ZF	50V 0.01U
C411, 412	ECEA1EK3R3B	25V 3.3U
C415, 416	ECKT1H103ZF	50V 0.01U
C417	ECBT1H101KB5	50V 100P
C418	ECEA1HKR47B	50V 0.47U
C419	ECEA0JU101B	6.3V 100U
C421, 422	ECEA1CK220B	16V 22U
C425	ECBT1H101KB5	50V 100P
C451, 452	ECEA1EK3R3B	25V 3.3U
C453, 454	ECBT1H101KB5	50V 100P
C455, 456	ECBT1H102KB5	50V 0.001U
C457, 458	ECFTD223KXL	25V 0.022U
C459, 460	ECFTD682KXL	25V0.0068U

Ref. No.	Part No.	Values & Remarks
C461, 462	ECEA1EK3R3B	25V 3.3U
C463, 464	ECEA0JK330B	6.3V 33U
C503, 504	ECFTD333KXL	25V 0.033U
C505, 506	ECEA1EK3R3B	25V 3.3U
C509, 510	ECEA1CK220B	16V 22U
C511, 512	ECCR1H120K5	50V 12P
C513, 514	ECEA1EK3R3B	25V 3.3U
C515	ECKT1H103ZF	50V 0.01U
C516	ECEA1EK3R3B	25V 3.3U
C517, 518	ECKT1H103ZF	50V 0.01U
C520, 521	ECKT1H103ZF	50V 0.01U
C551, 552	ECFTD563KXL	25V 0.056U
C553, 554	ECEA1HK010B	50V 1U
C555, 556	ECFTD223KXL	25V 0.022U
C557, 558	ECEA1HKR22B	50V 0.22U
C559, 560	ECFTD472KXL	25V0.0047U
C561, 562	ECFTD683KXL	25V 0.068U
C563, 564	ECFTD102KXL	25V 0.001U
C565, 566	ECFTD183KXL	25V 0.018U
C567, 568	ECKT1H561KB	50V 560P
C569, 570	ECFTD392KXL	25V0.0039U
C571, 572	ECCR1H820K5	50V 82P
C573, 574	ECKT1H471KB	50V 470P
C575, 576	ECEA1EK3R3B	25V 3.3U
C577-580	ECEA1CK100B	16V 10U
C589, 590	ECEA1EK3R3B	25V 3.3U
C601, 602	ECEA1EK3R3B	25V 3.3U
C603, 604	ECKT1H391KB	50V 390P
C605, 606	ECEA1CK220B	16V 22U
C607, 608	ECCR1H120K5	50V 12P
C609, 610	ECKT1H681KB	50V 680P
C611, 612	ECKT1H223ZF	50V 0.022U
C614	ECEA1HU330B	50V 33U
C615	ECEA2AU100B	100V 10U
C617, 618	ECKT1H681KB	50V 680P
C701, 702	ECES1HU472H	50V 4700U ⚠
C703	ECKT1H103ZF	50V 0.01U ⚠
C704	ECEA1VU101B	35V 100U
C705	ECEA1CU101B	16V 100U
C706	ECKT1H103ZF	50V 0.01U
C707	ECEA1HK4R7B	50V 4.7U
C708	ECEA1CK220B	16V 22U
C709, 710	ECKT1H103ZF	50V 0.01U ⚠
C711	ECEA1CU101B	16V 100U
C712	ECEA1VU470B	35V 47U ⚠
C713	ECEA0JU101B	6.3V 100U
C755	ECBT1H221KBY	50V 220P
C771	ECKW2H103PE	500V 0.01U ⚠
C791	ECKWNS103ZVS	250V 0.01U ⚠
C851	ECFTD104KXL	25V 0.1U
C852	ECEA0JU101B	6.3V 100U
C853, 854	ECFTD104KXL	25V 0.1U

Ref. No.	Part No.	Values & Remarks
C891	ECFTD392KXL	25V0.0039U
C901, 902	ECEA0JU102B	6.3V 1000U
C903	ECEA1HK010B	50V 1U
C905	ECKT1H331KB	50V 330P
C906	ECEA0JU471B	6.3V 470U
C910	ECKT1H103ZF	50V 0.01U
C911-913	ECEA1HK3R3B	50V 3.3U
C914	ECEA1VK100B	35V 10U
C915	ECEA1VU101E	35V 100U
C916	ECEA0JU102B	6.3V 1000U
C917	ECEA0JU101B	6.3V 100U
C922	ECKT1H331KB	50V 330P
C924	ECKT1H103ZF	50V 0.01U

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